

SOPHISTICATED VIDEO COMPOSITING, PAGE 60

VIDEO TOASTER USER

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

VOL. 6 NO. 7

**UNCLE
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**END THE
BACK-UP
BLUES**

**REVIEW:
IMAGE
FX 2.6**

a Miller Freeman, Inc. magazine

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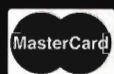
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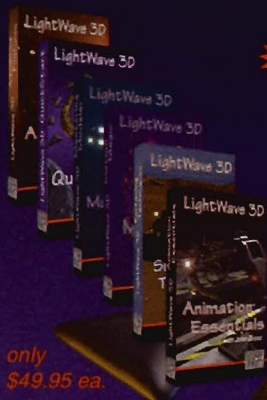


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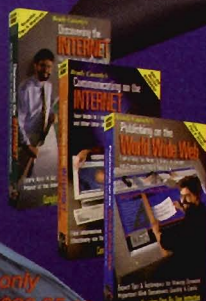
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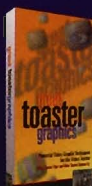
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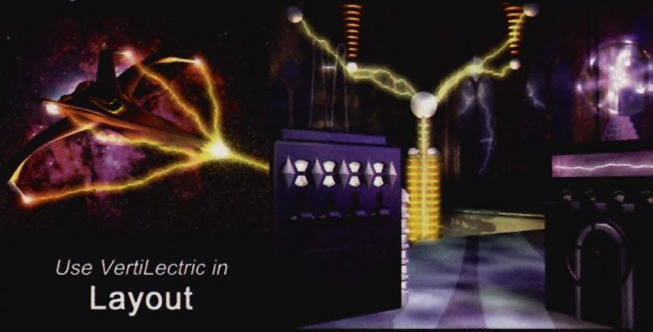


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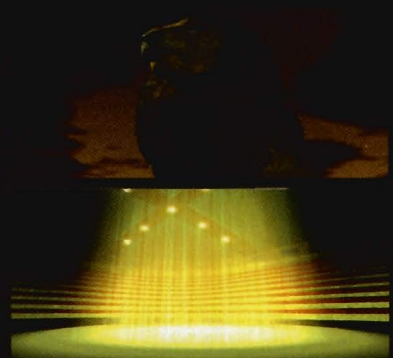


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Videos are available in both NTSC and PAL versions. Add \$5 per video for PAL versions. Shipping & Handling is as follows: Each Video: US \$4 - Canada/Mexico \$6 - International \$7.50
Shipping & Handling for THE FX KIT FOR LIGHTWAVE: US \$5 - Canada/Mexico \$7.50 - International \$10 (ground) or \$20 (air) --- Volcano Music CD: US \$4 - Canada/Mexico \$6 - International \$10.

Visit our Web Site on the internet at <http://www.webcom.com/lightspd>

International Distributors Wanted. Lightspeed is a trademark of Digital Concept Productions. Lightwave is a trademark of Newtek Inc.

TOASTER TALK

Cha-Cha-Cha-Changes

The More It Changes...

by Tom Patrick McAuliffe



It's fun and inspiring to read wise and whimsical quotes from history—helps you keep it all in perspective. The Chinese saying "May you live in interesting times" has certainly been apropos of late. In three major areas; the magazine, our industry and my life, it's been a very exciting and intense few months.

At the magazine...Yes, *Video Toaster User* magazine, along with *LIGHTWAVEPRO*, *Alpha Visual FX*, the *Video Toaster User* Expo convention and the Toaster/LightWave training tour, has been acquired by international publisher Miller Freeman Inc. These guys are big time (times ten) with 78 magazines and 85-plus trade shows covering more than a dozen special interest niches. Founded in 1902, Miller Freeman has recently expanded into several high technology markets including music, video and 3D animation. Most importantly they understand our market and the type of specialized information this magazine provides. A sample of Miller Freeman publications include *Videography*, *3D Design*, *Music & Computers* and *InterActivity*. The magazines they publish are all well fitted to the kind of specialized tutorial-based information *Video Toaster User* has been successful in providing.

Michael Kornet, former President of AMG Media, Inc., and now the Publishing Director of the new digital video and 3D animation publications states, "Miller Freeman's Entertainment Technology Group publishes leading magazines in the music, video, 3D animation and interactive industries. No other publishing company has a larger commitment to these emerging markets."

Our charter is to continue giving you valuable information on which button to push or niche to conquer to maximize your investment in Toaster, Flyer and LightWave 3D technology. To the extent we don't do this, we fail you. This will not change. Plus, with the added muscle of a large experienced publishing company like Miller Freeman, we can ensure and expand the timeliness, distribution and quality of the magazine as well as our other products.

On The Amiga/Toaster Front

In our industry, a finalized deal with U.S.-based VIScorp purchasing Amiga Technologies has eluded us, but I'm told is about to occur. With several interesting developments the Chicago-based Interactive TV maker has reached out to both users and former Amiga developers for input and ideas. I've spoken with senior officials at VIScorp who have outlined

three strategies for expansion and development:

- They do plan on manufacturing Amiga's *ASAP*, despite rumors to the contrary.
- They do plan on licensing the technology to other manufacturers (can you say *Clone?*).
- They don't plan on producing PowerPC Amiga's, but *are* taking a look at the DEC Alpha 300 MHz CPU. However, Phase 5 in Germany and a new U.S. company, PIOS, are feverishly working on a PowerPC-based Amiga, while another company is producing the Eagle 4000T, an Amiga 4000 Tower clone. We hope to have interviews with senior members of VIScorp (www.vistv.com) in the future. We'll bring you confirmed details as they develop.

Meanwhile, NewTek is shipping more products than at any time in its history. The ground breaking Video Toaster 4000 is still going strong. In terms of sheer numbers of units sold, the Video Toaster Flyer 4.1 has become one of the most popular digital non-linear editing systems in the marketplace. The newly shipping LightWave 3D 5.0 offers professional quality 3D animation on more platforms (including Amiga, Intel, MIPS and Alpha) than any other competitor. Also significant is the new release of Video Toaster 4.1 stand-alone for the Amiga platform, which began shipping earlier this spring. Its easy storyboard interface and advanced features make this upgrade a no brainer!

Eight Days A Week

I've recently re-emphasized my personal video production business. I now have a new level of understanding and respect for today's Toaster entrepreneur. The great thing about working for yourself is you only have to work half days—just figure out which 12 hours! After looking at an extensive list of services offered, I recently asked a successful Toaster business owner if there was anything he didn't do. He said, "Yeah, I don't *sleep!*" The Video Toaster Flyer allows thousands of users to compete in sophisticated markets. I shall use these new experiences to rededicate *Video Toaster User's* efforts to provide you with actionable Toaster, Flyer and LightWave information. As Milton Berle said "If opportunity doesn't knock—build a door." Till next time, may your clients be many, your graphics glorious and your edits accurate.

VTU

Editor In Chief Tom Patrick McAuliffe and his wife Sharon own Reel Communications in Northern Calif. Reach Tom on-line at TomReel1@aol.com.

TOASTER TIMES

My Way—Video as Fine as Wine

Tom Patrick McAuliffe

Ed Mellnik started his video production career 26 years ago as a "Video Artist." Back in the 1970's, video artists were experimental video documentarians and artists using video to create wonderful moving images using video feedback, colorizers, and other special effects. Much of it was conceptual art—some psychedelic, like you'd see at a present day rave. "I was using special effects to do creative transitions when I was a student at the University of New York at Buffalo," he said. "I found myself so interested in the special effects that I wanted to create surreal psychedelic images to music. Video Art was big back then!"

Mellnik used to sign out the Binghamton Experimental Television Center for three days just to have access to the facilities to create and learn his trade. The center was supported by the National Endowment for the Arts and the New York Council for the Arts. "I began getting myself booked in museums and Universities to talk and show my video art work. I used to do Gallery lectures using 25 TV sets to create sculptures and interactive environments," he said. Still, the art never totally paid the rent. "When I moved to Portland, Ore., I realized that corporations liked doing business with other corporations and would pay a lot more than if I were just a freelancer. So I set up a door on two boxes and registered my business



"Ed Mellnik and Associates" - later to become EMA Video Productions, Inc.," he said.

Doin' It In 3/4 Time

Focusing on industrial video production on 3/4" inch stock in the 1980's still produced some dry periods for Mellnik. Sometimes he wondered what was going to pay his loans for his equipment. "I really got tired of twiddling my thumbs and decided that if the bank was going to end up taking my equipment back anyway, I might as well get out there and use the equipment," he stated. After a little research, he got the idea to do some travel tapes on the state of Oregon and sell them in tourist outlets throughout the state. "I found the most successful projects of these kinds are ones with *big* audiences. For example, my Oregon tapes sell all over the state, and my

Portland tape only sells in Portland. Guess which one is making money?" asked Mellnik.

Special interest tapes are great if you have a presenter that is well respected in the field and have a big mailing list, according to Mellnik. "If you are going to wholesale to stores, remember they expect to be able to mark the product up 50 percent. That is called keystoneing. So if you want the tape to retail for \$29.95, then you have to sell the tape to the store for \$15," he said. Mellnik believes these tapes have been successful because they have been marketed across many avenues and outlets—from gift shops to libraries to broadcast to giveaway promotions. He shot and edited them on a basic 3/4-inch A/B Roll system, then dumped them up to a 1 inch master video tape for distribution and duplication. The Discovery Channel bought the rights to three of Mellnik's programs to air over two years. The titles were *Oregon—State of Wonder*, *The Oregon Coast*, *Adventure Awaits* and *Gorgeous—Exploring the Columbia River Gorge*. "I was lucky that the Discovery network had a series called *America—Coast To Coast*, that they could use the shows in!" he said modestly.

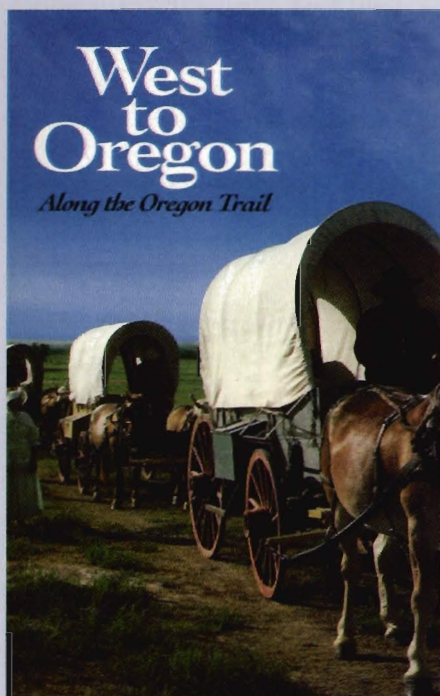
In The Beginning

In 1992, Mellnik bought his first NewTek Video Toaster system. He was just starting another program called *West To Oregon!*, a documentary on the Oregon Trail. It was shot on 3/4-inch stock with an Ikegami 3-chip camera.

"For years I laughed at Amiga users. Even though they were doing some neat stuff, it was not high enough resolution for my corporate clients. In 1984 I paid \$10,000 for a Quanta character generator which had seven font styles and no ability to add more. When I bought my first Toaster in 1992 it was mainly just to get a better character generator. Then I considered the rest just extra icing on the cake," said Mellnik.

Then after about three months of use, the Toaster was the heart his editing suite.

During the production of *West to Oregon!* all of the maps and graphics were created with the Toaster. The air rights to this piece were sold to the Learning Channel



Produced on a shoestring budget, this video won awards and turned a profit.

(Discovery Channel's sister network) for the initial two years. "Once you have a finished program you can shop it around, which is a lot easier to do than it is to talk someone that does not know you to pay you to do a project," he said. The down side is that single programs are hard to place. Most networks like to buy a series of programs according to Mellnik. "They are all so damn fickle. It is still who you know and play golf with, and I don't play golf," he said.

Since he had a finished program (*The Oregon Coast—An Adventure Awaits*) for sale in gift shops, he had nothing to lose so he shopped it around. He sent it in to the Discovery Channel and they liked it. They made Mellnik an offer and he counter offered. They accepted!

"One thing I have learned through the years is that *everything* is negotiable. You can negotiate price, pay-

ment schedule and renewal terms. What you can get for program depends on the budget of the buyer," he explained. Mellnik received \$10,000 over a two year period for the first program sold to the Discovery Channel. The terms of the contract were for unlimited airings during that two year period. The programs were done in 3/4-inch stock and dumped to 1 inch. According to the veteran, image quality is critical but good production values can go a long way in making up for an inferior format.

The *West to Oregon* production also won a Bronze Telly Award in 1992. Last year MECC (a software company out of Minneapolis) released *The Oregon Trail II*, an interactive CD-ROM game. Mellnik's tape was packaged with the CD-ROM. The total budget for producing the program was about \$80,000 which included in-kind services from EMA. The program has grossed over \$200,000 so far.

"What I did all those years without ToasterPaint and Framstore capability, I can't imagine. Hundreds of stills, maps and other graphics were created for the program and I am especially happy with the maps we created," he asserted. Not wanting to get sued for using someone's maps, he used a published map as a template. In TPaint Mellnik cleaned it up and erased all lettering. But kept as much of the relief as he could. He then pointed a camera at some parched paper to get a Framstore background and used TPaint to rub through 20 percent of the texture onto the maps. "When we were finished, they looked nothing like the originals—they were better!" he said proudly.

Today

Mellnik has always believed in keeping up with technology and today owns a Video Toaster Flyer digital non-linear video editing sys-

tem. "When the Flyer came along I was more than ready to throw the 3/4" inch machines away. Anyone trying to do A/B roll editing for years without timecode or an A/B roll edit controller knows non-linear is a god-send," he explained. "And where else could I get a Switcher, Paint Box, 3D animation system, Frame Store, Character Generator and non-linear editing for less than \$25,000?" Earlier this year Mellnik won two more Tellys for industrial projects produced with the Video Toaster Flyer system. "The quality of Beta SP to the Flyer and back is certainly better by a long shot than the programs I did in 3/4" inch!"

Mellnik's advice to the Toaster/Flyer owner who wants to break in to the video production industry? "I would say that a good script and good sensitivity to music choices is imperative," he said. A collaborative attitude is also helpful as is the packaging of your video

instructs the award winning videographer. "Video is like wine. Unless you really know your wines, you buy on impulse, label and recommendations. Remember, if you burn your audience with a bad production you burn *your* future *and* create a mistrusting for the rest of us. That is why it is so wonderful every time I see a well done piece—even if it competes with my own. With the Flyer or the solo Video Toaster there is no longer any excuse not to put out good work!"

VTU

Reach Ed Mellnik and EMA Video Productions Inc. at 503-241-8663, or online at 7131,1613@compuserve.com.

EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Very Useful
Circle 068

Useful
Circle 067

Not Useful
Circle 066

Compiled by T.P. McAuliffe

NewTek News

NewTek currently has several upgrade programs and special offers available. The Video Toaster 4.1 upgrade for both Amiga Standalone and the Toaster Flyer NLE system is now shipping in quantity. Registered owners of Video Toaster 3.5 or earlier versions can purchase the Amiga Toaster update for \$549 (all prices are MSRP in US dollars). The 4.1 update requires a CD-ROM drive, approximately 500 MB hard drive space to install, and 10 MB RAM to operate. Some features will be limited and others will be non-functional on systems that do not have 2 MB Chip RAM.

Registered owners of LightWave 4.0 for Intel, MIPS, or DEC Alpha, can update to LightWave 5.0 on the same platform for \$495. Registered owners of Amiga LightWave 3.5 or 4.0 Standalone can update to Amiga 5.0 Standalone for \$295. Registered owners of the Toaster or Flyer 4.1 software can also upgrade the LightWave 3D software integrated into 4.1 to 5.0 for \$295.

There's also a special program for registered product owners. If, for example, you own LightWave Intel, and want to buy a second complete LightWave Intel (dongle manuals, etc.) unit, you can do so for \$895, instead of the usual \$1495. This special offer is available to any registered Toaster/Flyer or LightWave Standalone owners who may wish to purchase a extra copy of LightWave Standalone for Intel, Alpha, MIPS, or Amiga. It was undetermined how long the special would last.

For more information phone NewTek at 1-800-847-6111 or 913-228-8000, Reach them on-line at Compuserve: Go AmigaVend, Go DTVforum or telnet bbs.newtek.com, America On-line: keyword NewTek, Web: www.newtek.com and FTP: <ftp://ftp.newtek.com>

Wedding Expo

The sixth Annual Wedding and Event Video Expo 1996, an international convention, trade show and seminar for Wedding and Event videographer's, will be held July 20-Aug. 1 in San Diego, Calif. The show is sponsored by WEVA, an association for those involved in this area of the video industry. For more information on the expo or association, call 941-923-5334 or send e-mail to info@weva.com

Joey Awards

The San Jose Convention & Visitors Bureau has issued its call for entries in the 1996 JOEY Awards

competition. Awarding excellence in video production, they are accepting entries in a variety of categories including documentary, TV Commercials, Sales/Marketing and Training. The deadline is August 31, 1996. For details, call 408-295-9600 ext. 135.

SIGGRAPH 1996

"Imagine it. Do it. Celebrate it. Explore it," is the title of SIGGRAPH 1996, the world's largest and most prestigious computer animation and graphics conference and exhibition. To be held August 4-9 in New Orleans the convention will see an appearance by NewTek Incorporated (Booth #1656) and other companies of interest to the 3D animator and computer graphic artist. For information call 312-321-6830 or contact www.siggraph96@siggraph.org

New Ad Campaign

NewTek has begun a new advertising campaign in a variety of publications.

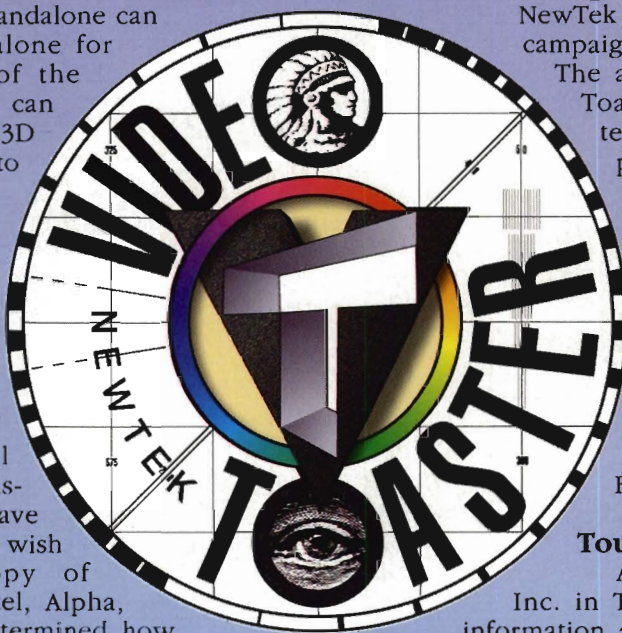
The ad for Video Toaster 4.1 and Toaster Flyer video editing system features an alien, (a'la the popular FOX television show *The X-files*) saying "The program is out there..." referring to the new Toaster and Flyer software. The ads for the newly released LightWave 3D 5.0 feature images from ABC's *Hypernauts*, with a quote from creator and Emmy Award-winner Ron Thorton of Foundation Imaging.

Tour Underway

After a brief stop at NewTek Inc. in Topeka to pick up the latest information and software, the 1996 *Video Toaster User/LIGHTWAVEPRO* Training Tour Across America has begun winging its way to over 20 different cities. Additionally *Video Toaster User* will be featuring articles from the trainers on the tour over the next few months. For more information or to register for this valuable once-a-year training call 1-800-322-2843

New 3D Firm

A new firm has been launched by several imaging and animation veterans, including *Video Toaster User* columnist David Hopkins. The new company, LightHouse Imaging, is located in Los Angeles and targets high-end entertainment industry clients offering fast and affordable 3D animation services. Featuring one of the fastest rendering farms in the world, the new organization uses 10 animation workstations allowing for low cost, fast turnarounds and output to any medium.



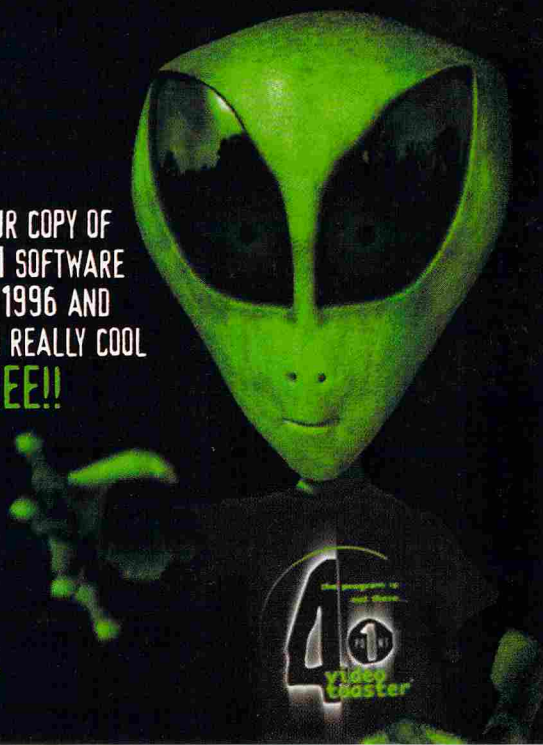
the program is
out there...

4.1 POINT video toaster

Encounter the
greatest Video
Toaster® upgrade
of all time.
To investigate
further call one
of our customer
service special
agents at...

PLUS, BUY YOUR COPY OF
VIDEO TOASTER 4.1 SOFTWARE
BEFORE JULY 31, 1996 AND
YOU'LL ABOUT THIS REALLY COOL
T-SHIRT **FREE!!**

NEWTek
INCORPORATED
1-800-TOASTER



NEW PRODUCTS

Compiled by
Rosemary Picado

Flyer and Toaster system open for optimum cooling and ventilation. The base DUO features 11 3.5-inch-drive bays, a power

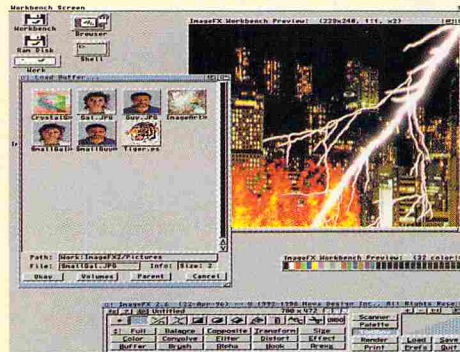
ImageFX 2.6 Is Here!

Updates-A-Plenty

Product: ImageFX 2.6 Upgrade
Description: Image Processing and Special Effects Program
Price: \$34.95 with ImageFX 2.0 or higher
Nova Design
1910 Byrd Ave.
Suite 214
Richmond VA 23230
Phone: 1-(800) IMAGE-69
Fax: (804) 282-3768

ImageFX 2.6 includes a number of technical breakthroughs and enhancements that allow users to create special effects on single images or sequences using either the improved IMP and AutoFX programs included with ImageFX. New effects and functions that have been added allow quick "load it and do it" access to the basic effect, while providing controls to allow customization for the advanced user. New features include complete NewTek Video Toaster/Flyer 4.1 support, the ability to load Framestores and Flyer Clips, Framegrab, render and interactively pre-

view your work on the Toaster's composite output.



Also provided is updated CyberGraphX previewing. ImageFX 2.6 supports Fargo FotoFun, Hewlett-Packard Scanjet IIc/3c/4c, as well as NewTek Digiview.

The new Wireless program joins the ImageFX suite to provide wire removal capabilities. Lightning now has multiple bolts and more options, and the Shear Straw and Composite functions have all been upgraded. New effects include Animated Bubbles, Fire and Fire Rings, a new Displace, Sparkles, Liquid Image Warping, Film Grain, Remove Grain and more.

FOR INFORMATION CIRCLE 1

Add to ImageFX

Product: MultiLayer
Description: Digital Compositing and Layering for ImageFX
Price: \$129.95
Prime Software
31164 Country Way
Farmington Hills, Mich.
48331
Phone: (810) 661-3393

MultiLayer is a compositing device for digital video compositing on the Amiga. MultiLayer provides an interface to ImageFX's arsenal of effects tools. A complete timeline and graphic user interface are provided to allow easy positioning and movement of up to 100 lay-

ers or still video images. It also gives control over fades, transparency, shad-



ows, text and images. There is no programming required. MultiLayer requires ImageFX 1.50 or higher and AmigaDos 2.0.

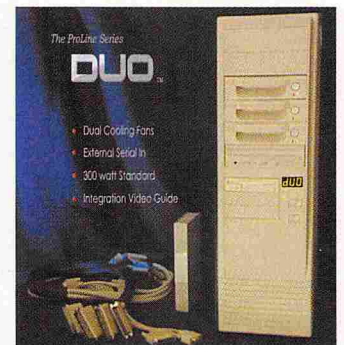
FOR INFORMATION CIRCLE 2

Tower Above The Rest

Product: The DUO

Description: Integration Tower Case Amiga/PC Compatible
Price: \$1,099—base
Absolut Imaging, Inc.
Dayton, OH
Phone: (513) 291-1200
Fax: (513) 291-2252
www.absolut-imaging.com/absolut.

Absolut Imaging's latest addition to the PRO-LINE Series of Integration Solutions is the DUO. Designed to integrate into any existing Video Flyer system, this tower case is configured to host the system drive(s), Audio/Video drives, 3.5" floppy drive and CD ROM, leaving the Video

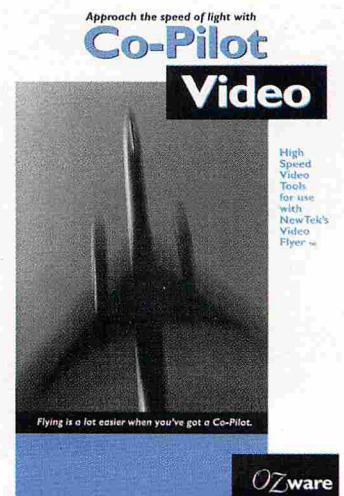


expander board supporting up to 7 video processing cards, External SCSI out for additional A/V storage, External Serial In and CD Analog Out. Absolute Imaging Inc. also offers an Internal Case Temperature option, and re-configuration for DPS Perception support. See this product, and the entire PRO-LINE Series online.

FOR INFORMATION CIRCLE 3

Start Your Engines

Product: Co-Pilot Video
Description: Flyer Editing Tools
Price: \$129.95
OZware
21230 Meadow Lake Rd.
Snohomish WA 98290
(360) 805-0148



Break the sound barrier with

Co-Pilot

Audio

Powerful
Audio
Tools
for use
with
NewTek's
Video
Flyer

Flying is a lot easier when you've got a Co-Pilot.

OZware

Co-Pilot Video is the first of the three-program series written by Michael Holten of OZware, a professional video editor. Co-Pilot Video provides tools designed to save time when piloting NewTek's Video Toaster Flyer non-linear editing system. Co-Pilot Video can render and update a range of CG pages, render CG pages into Flyer Stills, convert and replace Framestores in your project or on a hard drive into Flyer Stills, composite CG overlays, record multi-camera switching direct to hard drive, auto create projects from a directory of clips and find unused shots for use in a project or for deleting off of your hard drive.

FOR INFORMATION CIRCLE 4

The Alternative Mouse

Product: AmiPC Power Mouse

Description: PC mouse for Amiga users.

Price: \$14.95

(Software Only)

Legendary Design Technologies

515 Park Road North #9

Brantford, ON Canada

N3R 7K8

Phone: (519) 753-6120

Fax: (519) 753-5052

www.io.org/~legend

AmiPC Power Mouse is the alternative to replacing a broken Amiga mouse, allowing a standard PC serial mouse to be used on an Amiga. AmiPC Power Mouse works with almost every

Amiga application including LightWave and utilizes higher resolution devices. It includes installation, test programs and an emergency program for those without a working mouse. The Amiga serial port or the serial ports on Multiface, ioExtender and ASDG cards can be used to plug in the AmiPC Power Mouse. The only requirement is Amiga DOS 2.0 or higher.

AmiPC Power Mouse works with any Microsoft of Mouse Systems compatible mouse, trackball or other pointing devices. With a standard mouse and adaptor, AmiPC Power Mouse is priced at \$24.95. With a



Microsoft "J" mouse and adaptor, the price is \$49.95.

FOR INFORMATION CIRCLE 5

Sound Effects

Product: SFX #2 CD-ROM

Description: Sound Effects CD-ROM for Amiga.

Price: \$39.95

Legendary Design Technologies

515 Park Road North #9

Brantford, ON Canada

N3R 7K8

Phone: (519) 753-6120

Fax: (519) 753-5052

WWW: <http://www.io.org/~legend>

SFX #2 CD-ROM contains over 1,000 sound effects and music pieces produced by Sound Ideas. The CD includes control software for both the Amiga and Windows platforms. SFX #2 CD-ROM has a new and improved program interface and requires only 1 MB of memory.

FOR INFORMATION CIRCLE 6

VCRs On the Go

Product: Panasonic AG-750, AG-720 and AG-710 VHS recorders.

Description: DC-Powered Compact VCRs

Price: \$1550, \$1150 and \$925 respectively



Panasonic

One Panasonic Way 2A-2

Secaucus, NJ 07094

Phone: (800) 524-0864

Fax: (201) 392-6001

Panasonic's new line of portable DC-powered VCR's are suitable for viewing on location or anywhere space is at a premium. They weight less than five pounds, feature sturdy construction for use in moving vehicles and four video heads. Recessed function buttons with LED displays change color when active for use in the dark.

The AG-750 and AG-720 will record up to eight hours with T-160 cassettes. All three recorders play back in three speeds (SP/LP/SLP), have industrial grade BNC and RCA connectors and are 5-pin serial controllable facilitating editing configuration. All models have a mic input and are 12-volt DC-powered with an additional AC adaptor.

FOR INFORMATION CIRCLE 7

Mini LCD Monitor

Product: AG-LC35P

Description: 3.2-inch color Liquid Crystal Display

Price: \$450

Panasonic

One Panasonic Way 2A-2

Secaucus, NJ 07094

Phone: (800) 524-0864

Fax: (201) 392-6001

The Panasonic AG-LC35P weighs less than a pound and with low power consumption and compact design, it is well-suited for use with the new series of DC-powered S-VHS and VHS VCRs.

The AG-LC35P is convenient for an in-car video monitor or a broadcast monitor for the field. The display has more than 150,000 pixels for image reproduction with an adjustable angle between 0 and 90 degrees for a wide range of viewing positions. It also has a built



in speaker with volume control and input jacks for video and audio.

FOR INFORMATION CIRCLE 8

VTU

PRODUCT ANNOUNCEMENTS

Announce your new products in Video Toaster User.

Simply send a press release describing your product with a photo, or a Mac or PC disk with a JPEG or TIFF image to:

Video Toaster User

attn: New Products Editor

1308 Orleans Dr.

Sunnyvale, CA 94089

For more information, call (800) 322-2843.

THE FLYER SUITE

More Quick Tips for Flyer Users

Finding Help on the World Wide Web

by Joe Tracy



Like last month, I'd like to take you on a journey with your Video Toaster Flyer, exploring tips that can make your job as a producer a little easier, and your presentations as a video artist more powerful. All of the ideas and quick tips I present here can be applied to the Flyer without the use of any third-party software titles.

Using Effects With Keys

This tip will allow you to use some of the toaster transition effects with CG keys while recording your footage!

***"Now you can experiment
with different effects to
bring your titles and logos
over the footage you want
to use in one easy
process..."***

1) Go into CG (the page format should already be key). Create a title (make your font big) then render it out to DV1 or DV2 (we'll assume DV1).

2) Go back to the switcher screen, then to the project/files view and select the Effects tab. Double click the Trajectory folder to open it up. This is a group of effects you can use successfully with this tip. Move the first effect, Curving Fly In, to your main project window.

3) Go back to the switcher screen. On the Main bus column, select input #1 (for this tutorial, we'll assume your camera or VCR is going into input #1). On the Preview bus, select DV1.

4) At the bottom right corner of the switcher screen is a superimpose box. In the first column of that box, select DV1. In the second column, select the color black.

5) To the right of the color black is a box with three numbers in it. Move your mouse cursor to inside this box. Press and hold down the left mouse button. As you move the mouse up and down, you'll see the numbers changing. The number in the box should read somewhere around 025. If you have done everything correctly, you should now see on your monitor the title you created keyed over the picture coming from input #1.

6) Select the effect that you moved up to your Toaster project screen. You will see that your title is still displayed. Because you don't want the title already on screen when the effect begins, you'll have to get rid of it. To do that, take your mouse cursor to the T-bar. Select the T-bar, pull it all the way down then all the way back up in one move. Your key is now invisible.

7) Bring up the record screen by holding down the shift key and pressing the tilde (~) button. Start your preroll and begin recording. When you are ready for your title to come flying in, click the Auto key at the bottom of the Switcher screen, and the effect brings it in over your picture!

8) If you need your title to disappear while still recording, simply click the off key in the superimpose box.

Now you can experiment with different effects to bring your titles and logos over the footage you want to use in one easy process, giving you more freedom during editing!

Flyer Clips on Moving Objects

Many news shows and high-end corporate productions have an opening that usually shows a picture in a box moving across the screen while a title is displayed. The following tip will allow you to accomplish this through the use of one of your Flyer clips and LightWave 3D.

1) Record a Flyer clip that you want to use to move across the screen.

2) Go into LightWave. Before proceeding any further, you must make sure that you have the proper LightWave plug-in installed. To do this, select the Options key on the top menu bar. Now select the Add Plug-ins button near the bottom left corner. When you've found the Plug-Ins drawer, select it. Now select the LightWave drawer. You should see four plug-ins available. Select the first one and hit OK. Bring up the menu again and one by one, load the other three. All of them will be useful in future projects.

3) Select Images from the top menu. When the Images Panel comes up, select the Load Flyer Clip button. Select the drive and flyer clip name that you want to use, then hit OK. If you want to change the duration of your clip, do so in the first frame and last frame boxes. When you are done, hit the continue button.

4) Select the Objects button from the top menu and then the Load Object button. Select the Misc.

drawer and then the RegImagePanel object. Click OK, then Continue.

5) You are now back in the main Lightwave screen and you can see the image panel you've loaded. Near the top of the left menu is a smaller view menu with Perspective most likely selected. Change the selection to Camera so that you are looking at it from the camera's angle.

6) On the top menu, select Surfaces. The Surfaces Panel is now displayed and the Current Surface selection should read RegImage. Just to the right of the Surface Color button is a bunch of numbers representing the color. Most likely it says 200, 200, 200. Just to the right of that is a button with a T in it. Select that button (it may already be highlighted, but select it anyway). If you've done this correctly, you should see a new panel.

7) From this new panel, select the scroll menu, representing the Texture Image. Find the name of the clip you loaded into images and select it. Click Use Texture, then Continue. You are now back on the main LightWave screen. Hit the F9 key on your keyboard to render out the current screen. Within the box, you should see the first frame of the Flyer clip that you selected render out and appear on your monitor. When it is done, hit the Esc key on your keyboard to get back to the main LightWave screen.

8) Now you can change the background color (effects button), load a title, make the box move whatever you want. When you render out the scene it will render each frame of your Flyer clip within that box no matter where it is or how fast it is moving.

9) To save your finished piece as a Flyer clip, select the Record button on the top main menu. Select the scroll menu next to Animation Type and highlight Flyer Clip. Next select the Save Animation button, the drive you want to save it on and give it a title. Press OK then Continue. Select the Render button now at the bottom left menu. Set your First Frame and

Last Frame, then next to frame advance select Automatic. Hit the OK button and it will render your animation to the hard drive you selected.

Warning—before doing any part of step 9, make sure your project is complete and saved. Do not save the project after step 9 as a

menu, you can easily select one. In order for the changes to take place, however, you must first restart your computer.

Video Only—If you are recording projects that don't require audio, then move your audio sliders all the way down to zero. Now

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enough: If you want an excellent source of information and

connections to other video producers and Flyer users, get

hooked up to the World Wide Web. From Flyer mailing lists

to Toaster-related WWW

pages, there is so much to

be discovered."

bug has caused some people to lose their project when trying to reload at a later time. This bug may have been addressed in LightWave 5.0.

We recently used this process in a three-part TV series on Keiko, the whale from the *Free Willy* movies, which was aired on a Warner Brothers affiliate station in Southern Oregon. Our entire one-minute introduction was created in LightWave. The title, *Keiko's Song*, had a rippling underwater surface placed on the face of the title that gave it a cool moving water appearance.

Quick Tips

ARexx Scripts—If there are certain ARexx scripts that you use frequently, you may want to move them to the Start-up Scripts folder to access them from your Tool option. To do this, first select files/files as your view mode. At the top of the screen select the ARexx tab to bring up the ARexx scripts. At the bottom of the screen select the ARexx tab, then double click the folder called StartUpScripts (should be the second folder). Move the scripts you use most from the top screen into the bottom screen. You have now transferred them to your StartUpScripts folder and whenever you click the Tools button, which is part of your main

when the clip is recorded, you won't have to change it to video only—it will automatically be selected.

Mode Difference—Here is an easy way without being technical, to tell the difference between extended record, standard record and HQ5 record. Go into CG and make a gradient background screen with the top being light blue and the bottom being a royal blue. Render out that screen. Now go to your record panel, select main out and record that screen for 20 seconds, each time using a different mode. Now, when you play the screens back, you will clearly see the difference between the three modes. It may surprise you.

Hook Up With A Good Dealer—A good way to help get the most out of your flyer system is to hook

FLYER SUITE continued on page 18

DR. TOASTER

Get in the Game

Upgrades and All That Jaz (Zip, Too)

by Dan Ahlan



It's that time again. What time you ask? I'm talking about upgrade time! It seems that whenever we get settled into our software, operating systems and routines, someone has to go and release a new, super-cool upgrade that we just can't live without. Most of us don't mind taking the time to learn new tricks, it's just tough coming up with the cash to secure the upgrade. Nevertheless, it can happen, and when it does it's like getting an entirely new system. Take the Toaster 4.1 upgrade for instance. There are many new and exciting features, and upgrading to this version is well worth the money. However, many people have e-mailed me questions about the upgrade with some valid concerns. Here are some of them.

"What will happen to my Amilink editing system?"

Unfortunately at this time, no word is available for a complete 4.1 Amilink upgrade. The Toaster 4.1 interface is entirely new, and existing 3.1 Toaster/Amilink users should wait before adding the new Toaster upgrade to an Amilink system. However, it may be possible to upgrade only the ToasterPaint, ToasterCG, and LightWave 3D by copying just those files from the Toaster 4.1 CD-ROM. Call NewTek tech support for specific implementations and uses.

"What's so great about 4.1?"

Toaster 4.1 adds not only a brand new ToasterPaint, LightWave, and a much improved Character Generator, the *entire* switcher interface has been overhauled in both look and operation. The switcher interface now matches the Flyer system, even if you don't have a Flyer installed. It's virtually the same software, and the biggest difference is the lack of video and audio clips. With Toaster 4.1 installed on your system without a Flyer, you can still create presentations. The Framestores are now displayed as croutons, rather than text, and can be sequenced for smooth playback right to tape.

"Do you need an Amiga 4000 to use 4.1?"

No. This misunderstanding came about when the Toaster 4000 card was introduced. The difference is color. With an Amiga 4000, you can view your clips/croutons in color. With an Amiga 2000/2500, Toaster 4.1 will work just as well, except the

clips/croutons will be grayscale. The Amiga 2000/2500 can only display 16 colors. ToasterCG, TPaint, Switcher and LightWave all function the same on all platforms. Display is the only variation. (For more on the Toaster 4.1 upgrade, see Burt Wilson's review in "Toaster Post," May 1996 V TU.)

Jazz It Up!

Toaster, Flyer and LightWave users via the Internet seem to have many questions regarding the new Iomega ZIP and JAZ removable storage drives, and compatibility with their systems. I'm happy to report that both models work just fine on an Amiga computer. As a matter of fact, one ZIP or JAZ unit can be used on an Amiga, PC, or Mac. Just for clarification, let me brief you. The ZIP drive is a new lightweight external or internal drive, that uses 100 MB cartridges as either additional storage or backup. Those of you working with SyQuest or Bernoulli drives will be happy to know that the ZIP disks, roughly the size and thickness of two floppys, cost about \$17.00. Some prices have been as low as \$13.00. \$13.00 for 100 MB or storage? With a Bernoulli or SyQuest, that will cost you close to \$100. ZIPs are really becoming popular, and more and more computer users are adding them to their systems. Imagine how convenient it would be to drop 80 or 100 Framestores (or some Flyer Stills) onto one small disk that slides into your pocket, and bring it over to a client's or friend's place.

The JAZ is another device from Iomega that is similar in size and weight to the ZIP. However, the JAZ drives disks are *1 GB* in storage capacity. That's 1000 MB on one small floppy! The unit sells for about \$500 as compared to the \$200 ZIP, and the JAZ cartridges cost roughly \$100. That's some major storage for very little money.

As mentioned, both of these units can be installed on an Amiga and formatted as such. But a better way to go is to use the CrossDos program to format the disks as PC DOS. The file structure and file types will be no different on your Amiga, other than the limit of file names with no more than eight characters. The advantage is easy file sharing between PCs and Amigas. I have a ZIP drive linked between my Amiga 2500 and my Pentium WindowsNT system. The unit is hooked to a switch box, which in turn is linked to the SCSI port on both machines. The disk is formatted as a PC DOS, and *any* file transfer from the Amiga such as old LightWave files, Framestores or

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fonts can be slapped onto a ZIP, and at the flick of a switch, the files are accessible on the PC.

Using either of these devices as additional drives is very common. There is a curiosity about using the JAZ as a Flyer or Perception drive. Honestly, they are not rated fast enough for full broadcast quality video, however the JAZ may be capable of industrial quality video. Above all, the JAZ can be used as an *audio drive* for either the Video Toaster Flyer or Perception cards, and can also be used as a back up of the Flyer and Perception files.

Need A Prescription?

Q: Dear Dan,

I'm using Toaster 3.1 on an Amiga 2000 with an '040 accelerator and a Y/C Plus card. Our Toaster color bars fall significantly short of the targets on the vectorscope. What does this mean, and is there anything we can do about it? When we fly in a keyed graphic, there is a very noticeable color shift. Should we be concerned?

Chris Lauritzen
Venture Media

A: Anytime your system isn't working right you should be concerned. But what you need to do is retrace your steps. Somewhere along the line, you have a poor video and/or black burst signal. You need to check your black burst source to see if it is coming from a "pseudo" device or a real black burst generator. Certain industrial quality video units offer time base correction, when they are really "frame synchronizers." However, your problem may not be more serious than just a weak black burst or video signal. First, check the cables. Then, how is your TBC configured? You're problem may be nothing more than a weak video level. Flying in a graphic and noticing a color shift sounds as if you're video signal (or black burst signal) is not stable. Check to make sure your sources are on and configured properly. Sometimes it pays to start from scratch and totally reconfigure your system. This ensures proper connections between all sources. Beyond this, get someone to your studio to take a hands-on look at your situation.

As time goes by, it's clearly amazing how things change. Toaster systems that cost close to \$8,000 three years ago are now selling for \$2,000. Animators who bought a Toaster system to render LightWave animations can now do the same for a third of the price with more power, more RAM and in a third of the time. I've said it before and I'll say it again, you've got to get in the game. Don't wait for "the next release" because there will always be another release. Waiting only delays your creativity and production. Invest the money, learn, create, make money and have fun.

VTU

Dan Ablan is President of AGA Digital Studios in Chicago. Dan can be seen on the AMG national training tours and on two new In.Focus LightWave Training videos. Dan is also the author of the LightWave Power Guide, the first commercially available book on LightWave 3D. Send your inquiries to dma@mcs.net

EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Very Useful
Circle 024

Useful
Circle 025

Not Useful
Circle 026

FLYER SUITE continued from page 15

up with a great dealer or order company who is truly concerned about you and your work. We have such a dealer, Clackamas Computers in Oregon, and whenever an update comes in, it is immediately shipped to us. Whenever there is news on the Flyer, they immediately call us. Whenever we have a problem, they immediately help us solve it. Once my 9 GB hard drive went out in the middle of an important television project. Upon hearing this, the owner of Clackamas Computers immediately hopped into his car and drove three hours to my location and dropped off a new hard drive for me to complete my project. There are many caring dealers and order companies out there. Be sure to deal with one that will service your needs in all areas, not just sales. It will save you much frustration.

Write to other Magazines—Without a doubt, *Video Toaster*

User magazine is the best source of Toaster/Flyer information available and I rely upon it heavily every month to bring me new information and advice. I've been dismayed, however, that all other professional magazines feel justified in ignoring the Amiga platform and the Video Toaster Flyer, even though it is one of the top-selling non-linear systems on the market! I'd encourage you to take the time to write a letter to the video magazines you read most often, asking them to address your needs, too, by reporting on the Flyer and Amiga. And when they do, be sure to write them a thank-you note!

It's on The Net—It has been said here before, but can't be stressed enough: If you want an excellent source of information and connections to other video producers and Flyer users, get hooked up to the World Wide Web. From Flyer mailing lists to Toaster-related WWW pages,

there is so much to be discovered. Are you stuck on a Flyer project Saturday at three in the morning when NewTek's technical support is closed for the weekend? No problem! Ask for help from the Toaster mailing list and within a couple of hours you'll probably have at least four responses. *Video Toaster User* even has it's own site (<http://www.portal.com/~amg>)!

VTU

Joe Tracy produces TV shows, national infomercials, and corporate videos. His production company, Studio Visions in Roseburg, OR also creates Windows '95 business programs for video producers and Flyer how-to tapes. He can be reached on the Internet at svisions@sisna.com or by mail at P.O. Box 236, Roseburg, OR 97470.

EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Very Useful
Circle 028

Useful
Circle 029

Not Useful
Circle 030

DEAR JOHN

Getting to Know LightWave 5.0

Camera Zooms, OpenGL, Key Lights and More

by John Gross



With the advent of LightWave 3D 5.0 comes a number of questions about its new features and uses. Here's the answers to some of the most frequently asked questions about our favorite 3D animation program.

Q: I know that you can create a camera zoom factor envelope interactively in Layout, but after creating the first frame, I can't make any adjustments. What's wrong?

A: 5.0 allows you to interactively create camera zoom factor envelopes and spotlight cone angle envelopes by using the mouse in Layout. In order for this to work, you need to make sure that both Auto Key Adjust and Auto Key Create (Options panel) are both toggled on. If they aren't, you can create a single key of the envelope by pressing the enter key, but you won't be able to create any additional keys.

Q: Do I need Windows NT to run LightWave 5.0 on a PC?

A: No. You can also use Windows 95. LightWave 4.0 worked with Windows 3.1, but you needed to use Win 32s. LightWave 5.0 no longer officially supports Windows 3.1 so I would definitely recommend at least getting Windows 95.

Q: Do I need an OpenGL card to use LightWave and Modeler on a PC?

A: No. OpenGL support is built into Windows NT and you can use it with Windows 95 with the proper OpenGL DLLs. If you have an OpenGL accelerator card, you can realize dramatic speed increases because hardware will be used to redraw instead of software.

Q: Even if I have OpenGL selected in the Options panel my objects still show up as wireframes sometimes. Is there something else I need to do?

A: Yes. You have to make sure that you are telling LightWave to redraw any selected objects as full (or partial) solids. You can do this in the Scene panel's Show pop-up menu. This allows you to change the redraw state for all objects, but you can change individual objects by clicking the icon in the Scene Overview list above. Every click will toggle through a different redraw state.

Q: Is there any way to keep my objects from turning into bounding boxes when I move them while using OpenGL?

"OpenGL can only use up to eight light sources, so you have to make sure that the lights causing the effects you wish to see are at the top of the list."

A: Regardless of the selected redraw state, you can tell LightWave not to redraw your objects as bounding boxes during a move or rotation by simply changing the Options panel's Bounding Box Point/Polygon Threshold value. Changing this value to match the number of polygons in a chosen object (as shown in the Objects panel) will result in the object not being redrawn as a bounding box when being moved. This is incredibly handy when using OpenGL and moving lights around an object as you can see the real-time lighting changes on the object. Note that this value will be saved in the config file as a default when you exit LightWave. Also, depending on the speed of your system and OpenGL card (if any), this may slow down LightWave quite a bit.

Q: Why is it that sometimes changing my key lights position or intensity will not affect the way my objects are lit in Layout while using OpenGL, but when I render the scene I can see the changes?

A: Chances are that your key light is more than eight lights down in your light list. OpenGL can only use up to eight light sources, so you have to make sure that the lights causing the effects you wish to see are at the top of the list. You can change the number of lights (up to eight) that OpenGL will use in the Options panel.

Q: Why can't I use a polygon size envelope to change a displacement map's amplitude over time anymore?

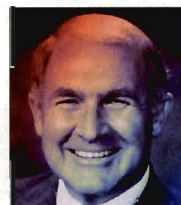
DEAR JOHN continued on page 31

TOASTER POST

The Digital Revolution

How to Make it Work For You, Plus Tips to Steal

by Burt Wilson



The digital revolution is here, but will the Video Toaster fit in? Not as well as a Toaster Flyer digital non-linear editing system. Can you join the digital revolution without a Flyer? It all depends on what you are using now and where you want to be.

In the first place, you have to think of digital as a whole new *way* of doing things in video. Basically, digital is not compatible with anything that is not digital. In fact, until the Flyer gets a FireWire input, even this digital wonder will not be truly compatible with digital. This is going to pose an interesting problem for linear Video Toaster users because the Toaster is analog, therefore not compatible with digital. That means if you put a Video Toaster system between a digital source and edit deck, your signal will go from digital to analog. The output will be analog to digital.

You don't have to be a rocket scientist to understand that in this configuration the Toaster will not deliver all the benefits of digital and you will lose a lot in the editing process.

The question is how much do you lose? And even with that loss do you still end up with a better product than you had before? Using the Video Toaster with a digital editing system is analogous to shooting on

Betacam and then transferring it to 3/4" for editing. In that case you are going from composite to analog, losing the best part of the Betacam system. But is the final output better than if you shot on 3/4" to begin with? That depends upon the type of camera you have and how many lines of horizontal resolution it produces. If your answer is that it *is* better than what you've been shooting in straight 3/4", then the hybrid works.

Do you follow me here? What I'm saying is that the only reason to mix analog with digital is if it gives you a better product than what is being produced on your system now. With that in mind, I am very impressed with the digital video equipment available now—or will be available in the near future. A lot of it *can* be used with the Video

Toaster, especially if you find that the output is better than what you're achieving now. The new Panasonic DVCPro laptop field editor, due out in the fall, is a good example. The DVCPro is a single-unit laptop digital editor which includes a jog-and-shuttle edit controller, a tape source player and an edit recorder. The fold-out top houses a dual LCD screen configuration with time code. In other words, you have a complete cuts-only editing system in the space of a laptop computer!

Therefore, all you have to do is hook up a Video Toaster between the source and edit bays and you have a complete home editing studio that takes up about a quarter of a normal desktop. It should be noted, however, that Panasonic's DVCPro products use a proprietary system that differs from the standard DV format in no less than five areas. Panasonic insists this customizing makes it perform better for the video professional. You be the judge.

Sony has its own DV systems which are marketed under the DVCAM name. There are now five DVCAM VCR's which vary in price from about \$18,000 for a digital edit deck to \$6,500 for a digital player (street prices are bound to be less). Hook up your Toaster between the player and the editor and you're ready to go. But be sure to check out whether the deck has the option of using an edit controller, and if it does, how much extra that would cost.

Digital is new, but it looks like it is here to stay. It's hard to think of what might be *beyond* digital. Thought transference and clairvoyance are the only things that instantly come to mind, but I don't think they are commercially operable. So it looks like digital's it for the foreseeable future. Whether you enter the digital domain with your Video Toaster or not is entirely up to you. It can be done, and now you know some of the parameters.

The Strobe Zoom

I ran into this problem the other day. I needed to freeze on a product and then strobe it into a close-up (i.e. edit together progressively larger images of the product until it filled the screen). There are times when you can do a quick "rack" zoom on your camera and have that substitute for the strobe effect, but if you want an honest-to-goodness strobe effect, here's how to do it.

First, freeze your scene and take it into ToasterPaint. With your image on the main screen,

***"A lot of it (digital video)
can be used with the
Video Toaster, especially
if you find that the output
is better than what you're
achieving now."***

use the Rectangle and Cutout tool (the icon with the scissors) to cut out a rectangle in the same proportion as the screen by clicking about 30 pixels in from the left and 30 down from the top and then dragging the cursor down to a point in the lower right corner about the same distance in.

Now open the main tool menu by right clicking the color selector bar and highlighting, in order, the Brush, Swap and Copy This Brush bars. Now you are ready to stamp down your new brush. Go to the Swap screen by hitting the (j) key (or simply texture map it over the original picture), then right click the color selector bar, go to the Mode panel and select TxMap for Texture Mapping. Now put the cursor in the middle of the screen, hit the (w) key and your cut out rectangle will render down the screen.

To get a full strobe effect, repeat this process about four or five times, always cutting out a smaller rectangle from the immediate image that you previously texture-mapped down. Then edit these images together about 10 to 15 frames apart. Look at the results! You will see your frozen image jump step-by-step into a close-up right before your eyes!

Steal These Ideas!

•I'm sure you're aware of that very silly Kiki effect where she comes out with her magic wand and sprays fairy dust all around to make a scene transition. Ever use it? I did for a client called "Magic Maids of America." Now I'm pitching it to another client. I want a furniture store operator to refer to her as his magic discount helper who magically lowers the price on merchandise. In this manner, the Kiki effect will become a running gag in his next set of commercials. We'll even give her a name and use her image on the price tags. Go ahead, steal this idea.

•A computer company wanted to put across the idea that they custom build computers from the ground up, to ensure that you're getting quality components. I opened up

the commercial with a shot of an open computer and asked "Do you know what's inside your computer? Then we zoomed in to see various items tucked inside the hard drives and cards—items such as teaspoons, alarm clocks, a kazoo and a can opener! Then we shot a scene of an open computer and slowly filled it with motherboard, cards, power supply, etc., each time shooting a new scene. In post, I froze all these scenes and dissolved from one to another. The effect was seeing an empty computer being built from the ground up with different com-

***"Remember to always cut
on the action! There's nothing
more amateurish than
seeing a cut that does not
match the long shot right
on the beat."***

ponents. Go ahead, steal this idea!

•A retail jeweler wanted to show how gems would look in recycled settings. To do this, I set up a matched dissolve from a gem in an old setting to the same gem in a newer, more modern setting. Go ahead, steal this idea!

•A car insurance dealer wanted to get across the fact that young drivers with bad records and/or DUI's were OK at his agency. We built the spot around this OK theme, and I made a 3D object of it in LightWave and flew it in a 20-frame animation to land inside a frame on screen. I

put the frame in the background space in the Effects panel to pull it off. The whole scene took about a half hour to render and I used it four times during the commercial. Hey, steal this idea!

•A local art store wanted to show many works from different artists, so I made a screen-wide frame—very ornate—and made a number of Framestores each with a different picture. Then I dissolved between them, or did some other nice effect. Another thing he wanted was shots of his sculptures—mostly Southwestern. So I collected a lot of Southwestern paintings he had on hand and positioned the sculptures in front of these large paintings. The paintings provided a wonderful background because they were of the same genre as the sculpture. The final result was so beautiful it looked like each sculpture and painting were made for each other. He loved it. You can steal it!

•One last production tip. When you shoot a long shot of some action and then shoot a close-up that you plan to cut to, make sure the person doing the action performs the action the same way on the close-up as he did on the long shot. This will allow you to make a clean cut to the close-up. Remember to always cut on the action! There's nothing more amateurish than seeing a cut that does not match the long shot right on the beat. In fact, in any kind of situation such as this, always cut on the action.

VTU

Burt Wilson is a Southern California video professional and the author of "Complete Post Production with the Video Toaster." He loves e-mail and can be reached at burtwilson@aol.com. His website is <http://home.earthlink.net/~futurecon/>

EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Very Useful
Circle 027

Useful
Circle 028

Not Useful
Circle 029

CYBERSPACE

Video On the WWW

You Guide to Resources on the Internet

by Geoffrey Williams



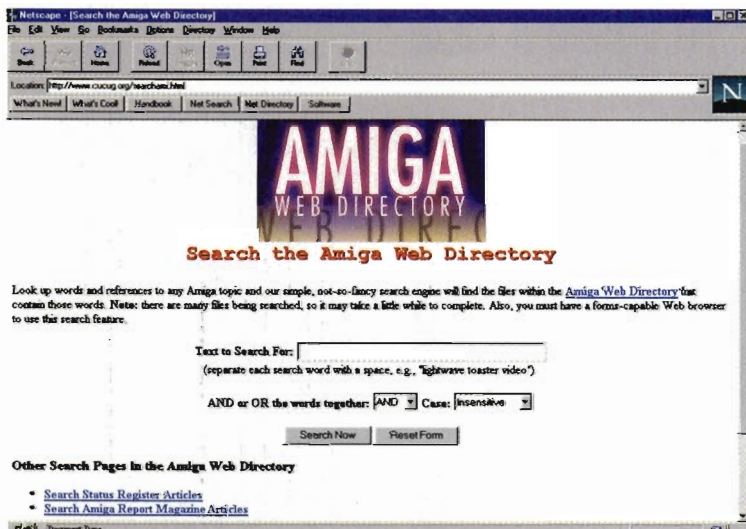
I have debated with myself on several occasions whether I should walk you through the process of connecting your Amiga to the Internet so that you can surf the Web. The bottom line is, while there are public domain (PD) programs and even a new commercial program that can get you on the World Wide Web, using an Amiga for this task is an inappropriate use of hardware. Your Amiga should be rendering 3D animations or Toasterizing great video—not acting as an on-line server! The capabilities available for even a very cheap PC far exceed anything

Netscape typically includes earlier versions that have far fewer features. At minimum you want version 2.0. Once you have it installed along with a 28.8k modem (a slower modem will *not* make you happy), you can use it to connect to Netscape and select from one of their recommended service providers. This is the simplest way to get connected—it is all automatic. You can also shop around for a service provider. Local computer magazines such as *MicroTimes* and other computer publications will list dozens of service providers. You want to find one that is inexpensive (a typical rate for unlimited usage and about 1 MB of non-commercial personal Web page space is around \$19.95). America Online offers their customers a special version of Navigator that users can download from their service.

One of the first things you will want to do is start downloading Helper Applications and plug-ins from the Netscape Home Page. Netscape Navigator, like programs such as LightWave 3D and Adobe Photoshop, can have additional capabilities added to them by using specific utilities called plug-ins that seamlessly integrate new capabilities and features into the main program as if they were built-in from the beginning. Helper applications can also add abilities to Navigator, such as automatically unzipping compressed Zip files that you download from the Web. These utilities are available as free downloads. I have a feeling your interest may be peaked by the many applications that allow you to transmit video across the Web.

Here are some of the main plug-ins used for displaying video formats: PreVU by InterVU is an inline MPEG audio/video player. It enables you to view MPEG videos over the Internet while they are downloading to your computer without having to wait. This way you can view an MPEG video without downloading all of it if it is not something you want. While the video is downloaded and played it will be cached by Netscape, resulting in increased video playback performance. After PreVU has played the video, you have the option of saving the file. These locally stored videos can also be loaded and viewed using Netscape and PreVU. You can also use it to playback MPEG files embedded in a Web page. This means that anyone with this plug-in can access your Web page and see MPEG video playing back on your page. It is available for download from their site at www.intervu.com. (Note: all of these addresses must be preceded by <http://>.)

ACTION is another MPEG viewer plug-in from Open2u. It can play both the video and audio simultaneously over a T1 or LAN network at approximately 24 frames a second for an image at 240 by 160 pixels. It is



The Amiga Web Directory helps you find Amiga and Video Toaster files.

possible on the Amiga or the the Mac. The PC is the platform of choice for surfing the Web, and if you want to be *really* involved on the Internet, you need a PC. The rest of this column assumes that you have a basic PC configuration or that one may be in your future.

The first software you will need is called a Web Browser. This allows you to graphically explore the Web using a simple point and click environment, rather than having to type in commands. The clear choice is Netscape Navigator, the leading browser software from the company that literally sets the standards for browser capabilities. Microsoft is desperately trying to wrestle control of this market away from them with their Explorer browser, but take it from me and stick with Netscape.

You can buy a copy of Netscape Navigator at your local software store for under \$30, making it one of the best values around. Make sure you get the official release and not one of the many bundles that includes it, as

slower over an ISDN or a regular telephone line. You can capture the movie and replay it at a later time. Other features include dynamic color/mono selection, 4x display size enlargement, and video and audio synchronization. Their site also includes a beta version of a utility to convert avi files to MPEG and gives you instructions on how to imbed MPEG files into your Web pages. It can be found at www.arasmith.com/action

Intelligence at Large, Inc. makes the MovieStar plug-in that lets you view QuickTime movies embedded in any World Wide Web page. It differs from most other QuickTime plug-ins by allowing you to view QuickTime movies with both video and sound as they download. It uses a proprietary QuickTime format for this which requires their MovieStar Maker software, also available on their Web site. It can play standard QuickTime movies, but not as they download. Their special format can be viewed without using a QuickTime player, but it requires QuickTime 2.0. You can find their site at www.beingthere.com

Iterated Systems, developers of fractal image compression technology, has created a video playback plug-in for AVI files. CoolFusion lets you display video at any size, even full screen. You can play video when the user drags the mouse pointer over it. You can also have an alternate audio track that plays on a double-click. This would allow you to offer multiple languages or a commentary track. The viewer can pause at any frame, continue, stop the download, or replay the video continuously. No special server is needed. CoolFusion transmits video over standard HTTP connections. You can download it from webber.iterated.com/coolfusn.

Although not a video format, quite a few sites are adding Macromedia Director Movies through the Director plug-in called Shockwave. These are specially compressed Director files. They also have plug-ins for the Authorware multimedia authoring package and it includes the ability to view animations, clickable buttons, links to other Web pages, streaming PICS movies and sound, and other multimedia elements. The VDOLive Video Player and Plug-in can play video in two screen sizes and can scale up to 480 pixels x 352 pixels with interlaced resolution. It uses the server/client

model, which means that you would have to have a server with their software in order to have VDOLive video on your home page. The advantage to this approach is that the streaming video with audio plays back at a reasonable rate. You can get it at www.vdo-live.com

Searching For Sites

There are a lot of Video Toaster and Amiga related Web sites. The key to finding Toaster related information is in using the various search engines available. Each one will provide you with *different* links, although there will be some crossover. What you will find depends upon how you do your search and what search service you use. With the Yahoo search engine (www.yahoo.com), a search for "Amiga/Toaster" produced only the



VDOLive plays video directly off of the Internet in real time.

NewTek Web page at www.newtek.com. Searching for "Video Toaster" produced two additional hits, including Pete Rittwage's Home Page at www.io.com/~kgk/pete. It contains hints and tips, sightings of Toaster work, user profiles, and Pete's personal bug reports. InfoSeek (guide-p.infoseek.com) found 74,500 matches for Video Toaster, ranking them from best to worst. Only about the first 50 contained anything of interest, but I haven't even gotten to LightWave yet!

The Lycos search engine (www.lycos.com) found about a dozen appropriate references, including several interesting articles none of the others found, including the Video Toaster User page (www.portal.com/~amg). Magellan (www.mckinley.com) found about ten good hits, while Excite (www.excite.com) found

only a few. A couple of the search engines I tried did not find any references, so it is important to try several different ones, and to *vary* the keywords you use in your search. The best thing would be an Amiga specific search engine, and amazingly I found two of them! AmiCrawler can be accessed at www.melizo.com/area52/amicrawler/search.cgi. The page says that it is able to search for keywords dealing with over 1000 Amiga related Web pages.

The Amiga Web Directory (www.cucug.org/searchami.html) lets you search through a wide variety of Amiga related material, including the ability to do keyword searches through the on-line Amiga Report magazine as well as the newsletter of the Champaign-Urbana Commodore Users Group (which sponsors this site). The related Monster List of Amiga Links (www.cucug.org/amimonster.html) is a huge, well organized list of almost every type of Amiga information you can imagine. There is so much listed here, with each reference clearly defined and taking you directly to the site with a mouse click, that perusing it for too long will make your head *explode*. It is one of the best Amiga related sites I have seen, and one you should definitely visit.

Here are a couple of other sites I have visited recently: Amiga Hot Spot (<http://www.akula.com/~inzane>) includes favorite sites, User Group Home Pages, Amiga news, program reviews and Toaster/Flyer information. Oliver Hotz recently e-mailed me about his LightWave page at isys.ml.org. Oliver is one of the three people who act as LightWave IRC (Internet Relay Chat) operators, so he keeps his finger on the pulse of the LightWave community. He has also made PowerTips Pro available over the Internet. LightWave Homepage can be found at cnj.digex.net/~rent/dak/lwirc/index.html. It links you to an IRC channel for the discussion of Lightwave, related software, and tips. It includes participants names with samples of their work, their personal photo, and links to their home pages.

There is no disk this month, as the things I have written about are readily available on the Internet and WWW. Netscape has their own section just for plug-ins, and you can get the latest version of the Netscape browser from their web page at home.netscape.com. Also make note of my new e-mail address: cbp@cris.com. You can continue to write to me at P.O. Box 10095, Glendale, CA 91209. I enjoy hearing from you!

TAMING THE WAVE

Grab Bag

Plug-ins, Add-ons and More, Oh My!

by David Hopkins



Hey there and welcome back to "Taming the Wave." This month I want to start out with a look at a couple of exciting plug-ins for our favorite 3D package. The products were examined in their DEC Alpha incarnations, but they should be virtually identical to other LightWave platforms. Each of these plug-ins is compatible with any version of LightWave, 4.0 or above. If you're still using a version below 4, you really should get the upgrades. They'll make your life much easier.



Some great depth of field courtesy of WaveFilter.

WaveFilter Net+

The first item of note is WaveFilter Net+ from Unlimited Potential. You may have seen the ads for the original WaveFilter or the review in February's issue of *VTU*, but WaveFilter Net+ is a whole different animal.

If you aren't familiar with the original version, WaveFilter is an image processing plug-in. It allows you to adjust common image settings via a nifty control panel for your rendered frames such as Gamma correction, Blur, Red, Green and Blue levels, etc. WaveFilter also offers speedy antialiasing, considerably faster than LightWave's own. You know how long it takes to render your scenes with High Antialias, right? Seventeen passes? With WaveFilter, you can take the strain off LightWave and render in medium or even low Antialiasing. A pass through WaveFilter on the way out, and you've got one of the cleanest images you've ever seen. And this is just the beginning of what WaveFilter allows you to control!

What's different about this new WaveFilter Net+? Almost everything. First of all, this version supports ScreamerNet network rendering (hence the Net part). Original WaveFilter does not. Despite the slightly confusing name, however, this is *not* the biggest feature.

WaveFilter Net+ is defining an entirely new approach to animation control. Using a set of clearly named NullObjects you can control the effect of all the WaveFilter features plus more. It's simple! Set up your scene as normal. Use Load From Scene to load in the



Striking effects from Vertilectric.

set of nulls, blur controls, color controls—you name it. Set your grid size to 20 meters and switch to the Top View in Layout. Your grid now represents a virtual "mixing board" with the Z axis as the slider path. Move the Blur null to 50 meters and you'll get a 50% blur added to your shot. Leave the Green null at 100 meters and drop the Red and Blue to 0 meters to apply a green filter to your shot. Slide the Noise null up to 75 meters for a nice grainy feel. You don't ever have to open the panel—ever.

This is fine and dandy if you want a solid setting for one of these items throughout the scene, but what if you want your full color animation to dissolve smoothly to black at the end, for example? No problem. To create keys, just like with any other LightWave element, simply move the Red, Green and Blue nulls from 100 (%) meters down to 0 (%) meters as your animation proceeds. It's that easy.

But wait—there's more. Let's say you're creating a composite shot and you really need the background

image sequence to be a little bit darker. As it stands now, you would probably batch process the sequence through an image processing package (or LightWave itself) as a pre-process before rendering, right? Not any more. Set the Bright null to the desired percentage and move the "Filters Should Affect" Null to 1 meter to activate the Background Only mode. Poof, the background image gets darkened as a step in the rendering process! The Filters Should Affect null is not a slider like the others, but a multi-position switch. A default of Z=0 means affect the entire image, 1 is Background Only, 2 is Objects Only, etc.

So what if you want to darken the background only, but you want to add other effects that adjust objects only, or the whole image in the same rendering? Again, no problem. There are actually four WaveFilter Net+ plug-ins, all of which can be active at the same time and accomplishing different things. This product is *cool*.

Want to use Depth of Field but don't have the processing power to make it practical? WaveFilter Net+ to the rescue again. You use the FocalPoint null to specify the point of perfect focus (and yes, you can move it during the animation—can you say "parented focal point?"). The DOFBlur% null defines the amount of blurring to apply per meter, the DOFBlurMax% lets you set the maximum amount of blur to use, and the Softness null lets you choose between sharp or smooth transition and between focused and unfocused. WaveFilter Net+ actually offers more control over Depth Of Field than LightWave does (including the invaluable ability to place and move the focal point within Layout itself) and manages to do it in a fraction of the time.

I could go on and on about WaveFilter Net+ but I can sum it up in just a few words: You need WaveFilter Net+. Check the Internet for a full-featured demo version that will affect only half of the screen; another great move by Unlimited Potential.

Vertilectric

OK, so what's next in the massive Taming the Wave Grab-Bag? Ever try

to create electrical activity? Maybe a massive lightning storm, evil scientist lab, or short-circuiting equipment? Bet you wished there was a tool to make the whole darn thing easier,

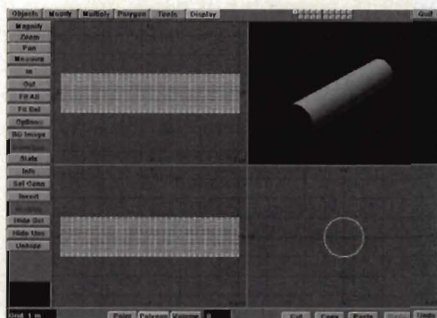


Figure 1.

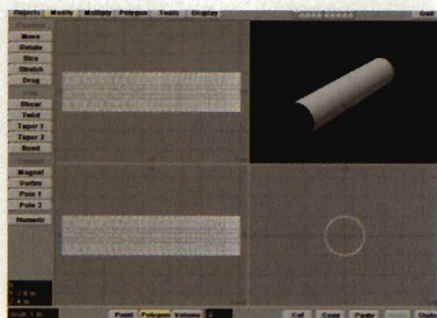


Figure 2.

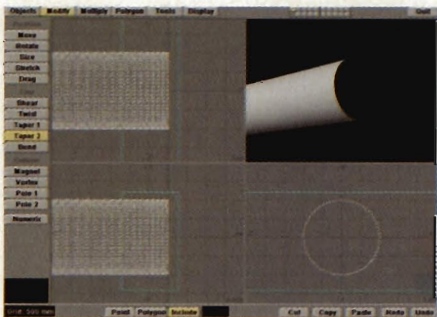


Figure 3.

right? There is. Vertilectric from Blevins Enterprises is the answer to your prayers.

Vertilectric is amazingly simple. With your object in a Modeler background layer, just place points at the locations where you would like lightning to hit. Use the supplied Modeler plug-in to convert your "hit-me" points into a LightWave scene that you can load into layout with Load From Scene. Select an object (or objects) that will be the source of the

lightning, and turn on the Vertilectric Object Replacement plug-in. Use the Options panel to specify the random seed numbers for the lightning bolt(s), the number of branches, number of segments, etc. But here's the greatest thing: You can tell your "hit-me" objects which numbered frames they will get hit. A list of all the frames of your animation appears and you just click the ones you wish. Every target object can have its own "schedule" of strikes. You can even set a probability of hit so that it may or may not get zapped resulting in a more random look.

One of my favorite features is the ability to move the lightning source in a scene and only have it strike a target if it gets within a certain range. If you remember the famous scene from *Star Wars* in where Luke practices his Jedi skills against a small round training droid, you understand what I mean. Or if you had a hand approach a plasma ball (that trendy science/art toy) with targets on the fingertips you could cause the lightning to jump out to it as it draws near. There are plenty of interesting uses for this gadget.

The Vertilectric control panel is class all the way. Not only is it very clear in designating the settings mentioned above but it also allows you to copy settings to all objects or to certain selected objects and you can tell it which settings to copy. Need them all to have a new number of branches but don't want to overwrite the other customized settings? Just turn off the toggle switches for those attributes that shouldn't be copied. I have to hand it to Blevins for making such a professional user interface.

So what's the bad news? Unfortunately for Vertilectric, LightWave doesn't allow the glow around an object to reduce as the object recedes into the distance. While the plug-in will allow you to design what could be some awesome 3D lightning effects, LightWave forces them to appear very two-dimensional. Hopefully the next release of LightWave will allow for more control over the glow feature, a very useful tool but very poorly implemented. If you are keeping score, this isn't so much a Vertilectric problem as a LightWave problem.

The primary complaint I have about Vertilectric itself is that any

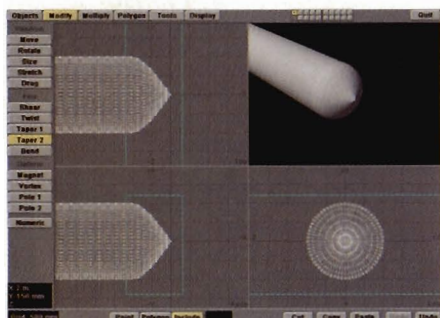


Figure 4.

bolt on the screen is recalculated every frame. It's hard to explain in writing, but imagine doing a shot where a bolt of lightning comes down from the sky and zaps a tree (one of the tutorials). If the bolt is visible for 3 frames, for example, every frame will have a different bolt resulting in a hyperactive flickering. According to the folks at Blevins, this concern is being addressed in an upcoming release, but for now it severely limits the usefulness of a wonderful plug-in.

If you frequently have use for electrical effects, Vertilectric is an excellent tool. Despite the basic problems mentioned above, the program offers all sorts of creative possibilities. On the other hand, the limitations are fairly serious. Blevins offers a "test-drive" version of Vertilectric which can be obtained from their World Wide Web site at <http://bei.moscow.com>, or other popular utility file locations. Try before you buy!

Tips and Tricks

This installment of "Taming the Wave" just wouldn't be complete without a few useful tips about LightWave itself, so let's get right to it. Users of the wonderful new 5.0 version of LightWave may be a bit shocked to notice that not only have the Load, Save, and Clear Scene options been moved out of the Scene Panel and into a "File" pop-up list, but a lot of useful scene information has just vanished. You know, things like the amount of RAM remaining, name of the scene, and item counts. They aren't really gone,

just moved to an obscure location—press the (w) key on your keyboard to reveal all that was lost.

One of the greatest features in LightWave 5.0 is the ability to apply multi-layered textures to your surfaces. Here's a neat example of one way to make use of this new possibility as well as a couple nifty modeling tricks that apply to all versions of Modeler—we're going to create a nice comet. If you're not using 5.0, follow along anyway. The only real shortcoming you'll run into is that you can only have one layer of texture per type but you'll get a similar, if less complex result.

In a fresh copy of Modeler,

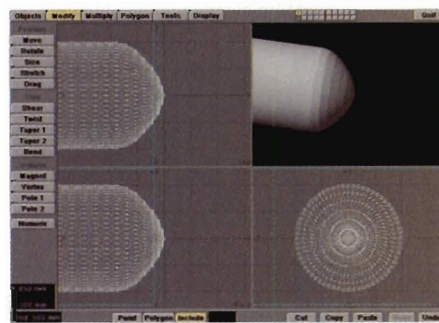


Figure 5.

choose the Disc tool and hit the (n) key on your keyboard to bring up the Numeric requester. Use 64 sides and 32 segments along the X axis with a Bottom of -9 meters and Top of 0. All Centers should be 0 and all Radii should be 1 meter.

In Polygon Select Mode, choose and delete the two end polygons that face up and down the X axis. This leaves you with a hollow tube. Triple the object so that you end up with triangles to avoid non-planar polygons later. Name the surface "Comet" and save the object as "CometRAW.lwo" (Figure 1).

Pay close attention, because we're about to use a tool in a way you might not expect. Select the Taper2 Tool from the Modify menu. Press your (n) key to bring up the Numeric requester. Set the Axis to X, the Sense to plus, make the X factor .4 with the others at 1, and all the Centers at 0. Click Apply. Notice that all of the rings of points shifted to the right—but to an increasing amount! Why does it do this? One of the mysteries

of tapering (Figure 2).

Drag a selection box around the 8 rings closest to the right (Figure 3) and choose the Taper 2 tool from the Modify menu again. Hit (n) to bring up the numeric window. This time we want Axis as X, Sense to plus, EaseIn turned on, X factor of 1, and everything else 0. Click Apply. The tube now has a "smooth" taper, creating a closed end (Figure 4). No smart remarks from the peanut gallery!

Drag a new selection box around the entire object—except the ring of points closest to the right. Select the Move tool and shift the entire thing +80 mm on the X axis. Adjust your selection box to include the entire object except for the two rings closest to the right. Move +60 mm on the X axis. Adjust the selection box to include all except the three rings closest to the right and shift +30 mm on the X axis. All we did here was round down the nose rounded (Figure 5).

Recreate your selection box around only the ring of points closest to the left. Press Shift-J on your keyboard to bring up the Jitter utility. In Uniform Mode, set the X Radius to 200 mm and the Y and Z to 0. Say OK and take a look at the ragged

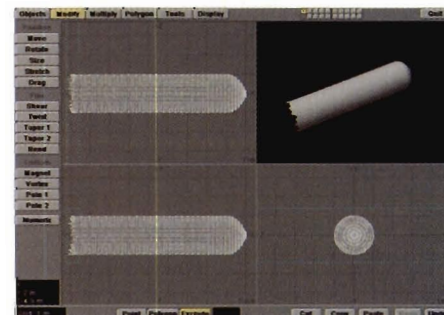


Figure 6.

end you just put on the open end of the tube (Figure 6).

Now, reset the selection box to include the entire object except those rings which are part of the curve. Taper 2 Numeric entry again, this time with X axis, negative sense, no EaseIn or EaseOut, X factor to 1, Y and Z factor to .5 and Centers all at 0. Apply. Now we have a microphone-shaped body (Figure 7).

Save this object as "CometShp.lwo" and load it into

LightWave. Set the Object Dissolve to 100% and load the "CometRAW.lwo". Set the Metamorph Level to 100% and the Target Object to "CometShp.lwo". In Layout this will result in you seeing only the CometRAW.lwo, but in the shape of CometShp.lwo.

Go to the Surfaces panel. Here's the formula I used:

Color = 200,200,200

Color Texture 1 = Fractal Noise

Size: X=3, Y=.4, Z=.4

Falloff: X=22, Y=0, Z=0

Color: 255 243 75

Frequencies: 5

Contrast: .5

Color Texture 2 = Fractal Noise

Size: X=3, Y=2, Z=2

Falloff: X=20, Y=0, Z=0

Color: 255 159 0

Frequencies: 5

Contrast: .75

Luminosity = 100%

Luminosity Texture 1 = Fractal Noise

Size: X=5, Y=.3, Z=.3

Velocity: X=-.3, Y=0, Z=0

Falloff: X=12, Y=0, Z=0

Value: 200%

Frequencies: 5

Contrast: .85

Luminosity Texture 2 = Fractal Noise

Size: X=2, Y=.4, Z=.4

Falloff: X=30, Y=0, Z=0

Value: 400%

Frequencies: 5

Contrast: .65

Transparency: 100%

Transparency Texture 1 = Fractal Noise

Size: X=3, Y=.3, Z=.3

Falloff: X=12, Y=0, Z=0

Velocity: X=-.2, Y=0, Z=0

Value: 75%

Frequencies: 3

Contrast: .85

Transparency Texture 2 = Fractal Noise

Size: X=3, Y=.4, Z=.4

Falloff: X=25, Y=0, Z=0

Velocity: X=-.4, Y=0, Z=0

Value: 15%

Frequencies: 5

Contrast: .5

Transparency Texture 3 = Fractal Noise

Size: X=2, Y=.1, Z=.1

Falloff: X=9, Y=0, Z=0

Velocity: X=-.35, Y=0, Z=0

Value: 35%

Frequencies: 5

Contrast: .75

Transparent Edges with Threshold at .75

Smoothing ON

Double Sided ON

Glow ON (if you have 5.0)

Still with me? What we've done is create a number of similar yet different layers of fractal noise that will

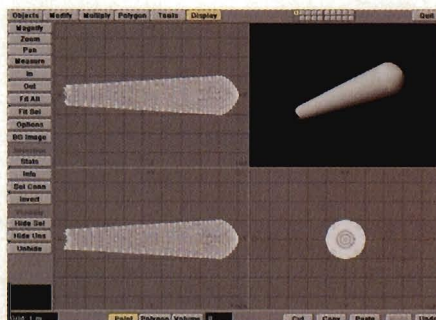


Figure 7.

appear to streak straight down the length of the comet's tail. Because we have defined this pattern on the straight tube, then morphed it into



Figure 8.

the comet shape, the streaks will appear to conform to the appropriate shape.

Now we need to add a bit of displacement so it doesn't look so rigid. In the Objects Panel, select the Displacement Map Texture for CometRAW.lwo. Give it Fractal Bumps with a Texture Size of X=2.5, Y=.5, and Z=1. Turn on World

Coordinates and set the Texture Amplitude to .2 and Frequencies to 3. You'll end up with Figure 8.

Since the Displacement bumps are based on World Coordinates, moving the object through the scene is what will cause it to deform. Give it a shot in an animation. If you're using 5.0 and you turned the Glow feature on, don't forget to activate the glow master switch in the Effects Panel.

Multilayered textures allow you to pull off some pretty nice effects on a single surface. Experiment with adding different layers with other types like Underwater, Wood, or Marble for still more interesting results. In our example you'll just want to keep the X axis wider than the Y and Z. Hopefully you've learned a new technique or two in the midst of this and I'm eager to hear what you have to say. You can drop me a line via e-mail at ltthouse@primenet.com, or visit my Web site at <http://www.primenet.com/~ltthouse> for more tricks and tips. Hope to hear from you soon!

VTU

David Hopkins is founder and President of Lighthouse Imaging, a Los Angeles-based visual effects house and rendering service with 10 DeskStation Alpha workstations.

EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Very Useful
Circle 033

Useful
Circle 034

Not Useful
Circle 035

SLICES

The Gem Round-Up

Everything You Need for Your Software Toolkit

by James Hebert



Over the years I have collected a vast amount of public domain and commercial software. Unfortunately (for my wife), I have done so for no less than four different computer platforms and probably three times that number of operating systems! (Yes, I'm a party animal.)

Depending on the computer you use and the software you have, you may wish to peruse this list and consider what programs you could use in your work. I have found these extremely valuable, or at the least, really cool. Some of them are *ages old* while others are more recent. I've also listed a few recent items that are not classics, but worth checking out anyway. You will find these items in a number of sources and by a variety of names. Both BBS software and the Internet have the ability to search for files and Web sites based on key words that describe what you are looking for. I have avoided giving specific filenames, sizes, and revision numbers because these things may change over time as newer versions come about. If I mention version X and you find version Y, you might not check it out because it's not the same thing, though it might be an updated version with even more useful features!

An old Amiga buddy of mine, Frank Penha, sold me a 2400 baud modem (remember that speed?) and pointed me in the direction of "the public domain." Today, with the Internet in everyone's back yard, it's worthwhile spending some free time poking around in the search for useful add-ons to make your work easier. Some of the programs I list below have done so for me.

As of this time, if you do not currently have access to the Net, a company called SPRY is offering the best rates I've found for newcomers. Five bucks gets you three hours of on-line time, with ten bucks for seven hours. It's worthwhile even if you just want to see what the Net has to offer and don't wish to sink too much time or money into it. America Online and CompuServe offer Internet access as well. Personally, I've found CompuServe's online support forums the most helpful and informative. On the other hand, I can use Netscape (a popular Internet access program, called a browser) with AOL, which makes for the friendliest and fastest online service Net access I know. Each of these companies is listed in the 800 directory (1-800-555-1212).

You'll also need the ability to unpack on-line files, since they are most likely archived into a smaller file size for faster transfer over the phone lines. For the Amiga (files with the extension .lha or .lzh), you'll need LHA or LHARC. For the Mac (files with the extension .sit), you'll need UnStuffit. For the PC (files with the extension .lha or .zip), you'll need lha or pkunzip.

These are not all the possible file compressors for the platforms here, they are just the most popular (some 95% of what you will see on the net will use one of these). Note that the Amiga LHA and the PC lha are able to handle the same kinds of files, but are different programs for the two different computers.

The Amiga

SCSI Mounter (Public Domain)— A classic, if you have anything to do with SCSI drives on your system. SCSIMounter handles the black magic of scanning the SCSI connections on your computer and updating the Amiga Workbench to reflect the current status. It can be invaluable, especially if you have some form of removable media such as an Iomega Zip drive, their older Bernoulli Box, or a SyQuest drive. Although SCSI controller cards are supposed to handle it, sometimes they don't. Older ones usually do not. But over 90% of the time, if your Amiga refuses to recognize a disk change, or the presence of a hard drive you've just added (or one that is acting flaky), SCSIMounter can handle it. Anything that keeps me from rebooting, I'll take.

Find SCSIMounter on the vast majority of on-line services. One caveat: It does not work with Flyer drives. The Flyer .scsi device is a different beast from standard Amiga system .scsi devices. Also, if you have a SCSI Zip drive for your Mac or PC, look on-line for a file with the text AmigaZip in its full filename. It's a Frequently Asked Questions (FAQ) file on using the Zip drive with the Amiga.

SysInfo (Public Domain)— The last version released is quite dated, although Nic Wilson updated this venerable utility repeatedly. Perhaps when new Amiga models return there will be a new SysInfo for them. Until then, SysInfo will tell you a great deal about your computer and its internal workings. Use it to check if your computer thinks it has as much RAM as you've put in, test the speed of your hard drives, find out what expansion cards are in your system and more.

ParNet (Public Domain)— The original cheap home computer network. ParNet allows you to network together a pair of Amigas via their parallel ports and a modified cable (the modification is not difficult, even for relative beginners). This allows you to send data back and forth between two machines. Transfers are slow if you are rendering 24-bit images, but unless you do a lot of that, ParNet is pretty nifty. Beats sneaker-net.

Speaking of networking, there's a useful file on the NewTek BBS called Networking.txt that is dedicated to

the idea of networking an Amiga and a PC (or more than one of each) using TCP/IP services. It's the single most informative source of information I've found on the subject.

CrossDOS/CrossMAC (Built-In/Commercial)— A version of CrossDOS for the PC is included with the Amiga; it allows your Amiga to read and write high-density IBM-formatted floppies (not Double-Density). A fuller-featured version can be purchased separately. If you have to swap files between computers, files that are either large in size or vast in number, (or both if you're rendering), get CrossDOS and use an external removable media drive to transfer the data. If you can afford it, you could put a drive on each machine and swap only the cartridges and not just the external drive as well.

I recently needed to render some LightWave 3D animations in a hurry, so I used a couple of Pentium 166s and rendered madly away one week. One PC had a 230MB Bernoulli Box in it, while I had an external 150MB Bernoulli Box on the Amiga/Flyer system. I used the 150MB cartridges, formatted by CrossDOS, to transfer the files from one machine to the other. When you don't have the system networked, it's the only way to go. (Note: Another transfer method I have not yet tried is PC2AM308 [PC to Amiga, version 3.08], a ParNet-like filesystem that allows you to transfer data to and from the Amiga and a PC via either the parallel or serial connection. This version supports Windows 95.)

Another very cool software package that helped on this project came from NewTek. Its name was (at the time) IFF2Clip, which can take a series of rendered images on the PC and compile them into a Flyer clip on the PC! Of course, they are not viewable until you get them over to the Flyer, but several 3-5 second animation clips will fit easily onto a 150MB Bernoulli. NewTek later updated this from an external utility known as IFF2CLIP for the PC and called it IFLYRCLP.ZIP, making it a plug-in for versions 4.0 and 5.0 of LightWave 3D on the PC.

CrossMAC is the Macintosh version of CrossDOS; it allows you to swap files from a Mac to an Amiga and back again using high-density disks. Like its

Big Blue twin, it will recognize removable media and hard disks that have been Mac-formatted. If you produce documentation for Amiga products using a Mac as your desktop publishing system, you will love CrossMAC. I've never had files go across more easily. (Also, to ease the process of placing Amiga screenshots into your documents, use GrabIFF for the Amiga. Not only can it grab all kinds of Amiga screens, like those tough-to-get Toaster screens, it will name and number them sequentially. I'm still looking for a PC utility that can do that!)

CG-Pilot/OZ ARExx Routines (Public Domain/Commercial)— CG-Pilot contains some wonderful ToasterCG ARExx scripts for turning ToasterCG into a power-CG. If you use ToasterCG a lot, get this on the NewTek BBS. If you use it a little, try it out. The kind people at OZ have a sample of their Flyer editor routines included with the 4.1 release. If you edit a great deal, this is a must-have. A lot of power put together in a friendly manner makes this a highly useful package worth purchasing. The author of OZ's software put together a neat little file on programming your own ARExx routines. It's called OZ-Rexx101.lha and you'll see it on the NewTek BBS.

DiskSalv (Public Domain/ Private Release)— Dave Haynie's "don't use your computer without it" disk utility. Try the demo, buy the release, and don't use your computer without it.

AmiSox— This is just for fun, perhaps. There are many sounds and sound effects files on the Net, and in a variety of add-on programs for all computers. AmiSox can convert from one format to another, adding effects in the process. (Note: Will a developer for the Amiga/Flyer please make a utility that can convert sound files to the Flyer format? Boy, I could sure make use of some of the MBs of material I've collected over the years. Or maybe they could make a special Flyer crouton that can trigger the 8SVX file to play out the Amiga line outputs, that I can mix into the program output for additional special effects during a Flyer playback? And while I'm on a roll, has anyone

thought about triggering or recording mods with the Flyer? For those of us who can make music tracks with mod editors, but who are utterly incapable of using a musical instrument, that would be very slick indeed.)

For the Mac

Mac to MacBinary— This very old public domain program that handles the job of converting data from a Mac-readable form to one that the Amiga can understand, and vice-versa. I found it a terrific utility for sending Macintosh Postscript and TrueType fonts to the Amiga, because without it, the Amiga could not read the files correctly. You'll find countless PS and TT fonts on-line, especially on America Online, with some on the Net and a few on CompuServe. (In fact, in my next column, I'll have a surprise collection of fonts that you'll be able to download, all converted from a variety of sources. It's a lot of fun. Several of these found their way into release 4.1, like the underline font and the trademark symbols font; others could not be included with software that was sold commercially.)

Norton Utilities

(Commercial)— Mac's have an odd habit of locking up. Maybe it's the Motorola chip set, because once I began using a Macintosh, I found that it froze up a lot too. (Don't let those Mac users get you down—their machines crash as often as the Amiga does, and recovering a Mac hard drive is harder to do than it is with an Amiga. Earlier versions of the Mac OS could actually corrupt the currently open file in the process of crashing. I can't tell you how many files I had to recover. Hey, with 3.0 and higher, the Amiga's OS can repair and re-validate a drive by itself, with no intervention! I haven't seen that anywhere else.)

Hard Drive Toolkit

(Commercial)— If you have a Mac, and you use more than one hard drive, just get it. An incredible program for handling all aspects of mounting, formatting, and tweaking for hard drives. The Mac is kind of strange when it comes to SCSI. I could never figure it out, but I could at least get to my data. I use it to recover other folks disks that were acting odd.

For the PC

Windows NT/Windows 95 (Commercial)—Not much to say here. Get one or the other. Serious 3D people would steer you toward NT. Those of us who sit in front of the machine all day using half a dozen applications throughout the workday, want the far nicer access features built into 95. In all honesty, I've found 95 to be a pretty darn terrific operating system in terms of the usability and accessibility it offers. Oh yes, it still crashes, but it handles that situation more elegantly and does not go up in smoke as most computer systems do.

Be aware, if you use Windows 95, Microsoft has quietly *updated* many files for the software via their online web site (www.microsoft.com). Several nifty features have been added in the process (look for updated drivers, something called powertoys, and more). Look out! If you update everything you have, you'll be downloading for hours, believe me.

Norton Utilities for 95

(Commercial)—Get it, because a computer is, after all, just a computer. They hiccup, crash, and go down in flames. Norton has shown that they know how to fix Macs and PCs better than anyone.

CleanSweep 95

(Commercial)—Windows software has to place itself in no less than 47 different locations on your hard drive during installation. It's a rule. So it's nice to know that you can remove that newfangled thing you just installed in case it blows up your machine somehow. Cleansweep handles the job of tracking the movements of software on your system with aplomb. It monitors all aspects of installation, maintains detailed reports, and recommends "safe" files to remove. It will even perform the removal itself.

QuickView Plus

(Commercial)—Microsoft includes a mini-version of Quick View in Win95. Buy the full version—it adds fast viewer access to over 200 file types. What's more, even on a Pentium 166, it takes too long for MS Word or Photoshop to load when all you want to do is check the text in a

file or see if the image is right. Quick View loads in an eyeblink, and you can even send the file on to the application that created it from within the program. Nicely done.

Partition Magic

(Commercial)—Have you ever wanted to change the sizes of the partitions on your hard drive without having to reformat the entire thing? This is the program for you. Fast, friendly, and safe. Just the ability to repartition without losing data is mind-boggling. You'll find yourself doing it just to impress your friends.

It's A Wrap

Enough already! There are a lot of lesser programs I have and use, although to tell the truth, I only employ them for special purposes (for example, one paint package I have has an automatic cleanup function for scanned images—it will straighten the image if it's crooked, then clean up the contrast and color quite nicely. But that's all it does well). Probably the best public domain programs are those that speed up the way you use your computer. Navigation is the key. I am always seeking methods for making my working life easier. Anything that completes a project sooner and allows me to go home and play Duke Nukem is just fine with me.

All of the software listed here is available on the NewTek BBS, the Internet, or commercially. If you have trouble locating anything you seek, contact me in care of the magazine. I will make sure that these files are accessible to you.

Next month, I'll have a set of free fonts for Toaster users consisting of material from my CG classes. Until next month!

VTU

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

EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Very Useful
Circle 039

Useful
Circle 040

Not Useful
Circle 041

MY SOFTWARE TOOLKITS

Amiga

AlphaPaint
Art Department Professional
ASIM CDFS
Brilliance
Convert (text convert for Amiga/Mac/PC)
Directory Opus
Pixel 3D Professional
SCSI Mounter
SysInfo
Video Toaster Flyer 4.1

Macintosh

Adobe Type Manager
Hard Disk Toolkit
Mac-to-MacBinary
Microsoft Word
Norton Utilities
Photoshop
QuarkXPress
Stuffit Deluxe

PC

Adobe Type Manager
ClickBook
Fractal Painter
Microsoft Plus! (for fun)
Microsoft Word
Netscape Navigator
Partition Magic
Photoshop
QuarkXPress
QuickView Plus
Windows 95 Updates
(On-line, from Microsoft)

A: In version 4.0, the ability to control a displacement map's amplitude with an envelope was added. It's still there in 5.0.

Q: I am using a Lens Flare ring size envelope and it doesn't seem to change size. Do I need to do something else?

A: Yes, you need to wait until that bug is fixed. Nobody else can do it either!

Q: Is there any way I can start LightWave or Modeler and automatically load a scene file or an object?

A: LightWave doesn't, but Modeler will allow you to automatically start Modeler by double clicking an object file. To do this, you must associate Modeler with the object. If you are running Windows, you can do this by entering File Manager and after selecting the object name, select Associate from the File menu. Then choose the Modeler.exe program. If the object you selected ended in .lwo, any file ending with that will now automatically run Modeler and load the file when you double click it. If you are running 5.0 on an Amiga, you can choose Modeler as the default tool in the object's icon so double clicking it will automatically run Modeler and load the object.

Q: What is the difference between Apply and Change in Modeler's Surface requester?

A: Changing any surface attribute (including the name of a surface) and selecting Change will apply the new attributes (possibly changing the name) to the surface selected in the pop-up. Notice that doing this won't change any selected polygons unless they happened to be using the selected name. Selecting a surface and selecting Apply will apply that surface to the selected polygons. Changing attributes of a given surface and then selecting Apply will alter the surface of any selected polygons and assign them the chosen name. Changing the name of the surface and selecting Apply creates a

new surface with the given name and attributes and applies them to the selected polygons.

Q: Why doesn't my Import and Export between Modeler and Layout work?

A: You must make sure that you assign a temporary directory in both LightWave's and Modeler's config files (the same directory in both) that tells them where to temporarily store object files. This directory is

also used by LightWave to store surface attributes that can be recalled by clicking a surface sample sphere.

VTU

John Gross is co-founder and partner of Digital Muse. Reach him at jgross@netcom.com.

EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Very Useful

Circle 028

Useful

Circle 029

Not Useful

Circle 030

One of the things that make most Amiga/Toaster users cool is their willingness to share. *Video Toaster User* is always looking for tutorials and story ideas. Readers have often told me that one of the most problematic aspects of submission is acquiring the images to go along with the article. If you have an Amiga/Toaster/Flyer system and the current (or relatively current) software, you can grab interface shots to submit with your tutorial articles (hint, hint) as needed. You'll need two additional programs: Brilliance or a similar paint program (DPaint may also work for this), and a PD program called GrabIFF (this is better but ADPro also works). It is available on the Fish disks, through Geoffrey William's PD Disk Series and most Amiga BBS's.

GrabIFF can successfully grab any Toaster or Amiga screen! ADPro can grab *most* of them. However, in all cases, the palette will be black (all colors of the interface will be set to 0, 0, 0). Just load these images into your favorite paint program and choose the Load Palette icon, then select "any" of the icons that the Amiga/Toaster/Flyer uses (these are the files with the .i extension). These contain the right palette data. Voila! The image will appear with all colors as they should be. Save it as an IFF24, JPEG or TIFF and you are on your way to fame and fortune in publication with VTU—Or at least you'll have good karma for helping your fellow Toasterites!

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Sunnyvale, CA 94089

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Fred Pienkos, See
Gallery in the May
issue of Video
Toaster User.

Tom Patrick
Editor in Chief
TomReel1@aol.com

You have just completed your first project on your Video Toaster Flyer system—non-linear editing at its greatest. You were so impressed with the friendly attitude and speed of the Flyer. All you have to do now is back up the Flyer drives or the project, or maybe both for redundancy. Then you are ready for your next venture, right? Not exactly.



BACK-UP

BLUES

N
O
M
O
R
E
!
by George Paramithas

Let me start by saying that I am an engineer and as such I am qualified to wear both a belt and suspenders. I tested my Exabyte 8505 tape drive the same day it arrived by backing up two small projects with success. When the time came to back up a real project, the little amber and green lights of the Exabyte flashed, the Flyer said "Backing up project". All's well, I thought, and headed downstairs for a beer.

Enter the nightmare of the back up blues. After backing up more than half of my project—1.8 GBs of time and digit crunching—the drive lights stopped flashing and the Flyer gave me a message, "bad media." I tired a new tape, thinking I may have gotten a bad one, even though it was brand new. I inserted another tape and punched the backup button. The amber lights started flashing, the headers of the flyer clips were being written, I was on my way once more—I hoped.

After 450 MBs of backup, I got the same error message. I tried another tape and got 280 MBs of backup before the drive stopped. This time it told me that the tape was "hosed". (What an appropriate expression.)

Time to quit hoping and start troubleshooting! The Exabyte drive is a SCSI device, so termination has to be checked, the length of the SCSI chain has to be measured, (it should not exceed 15 feet including the octopus cable), the centronics connectors and cables should be evaluated, and, finally, if all else fails, the drive will take a trip back to Exabyte for repair.

continued on page 36



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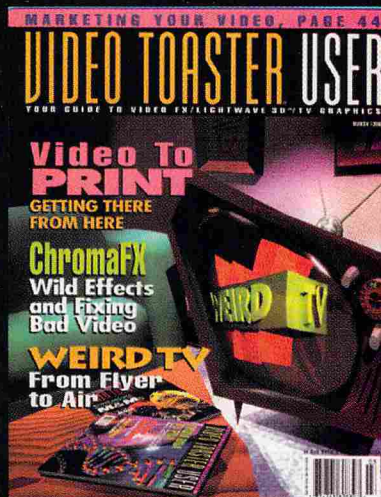


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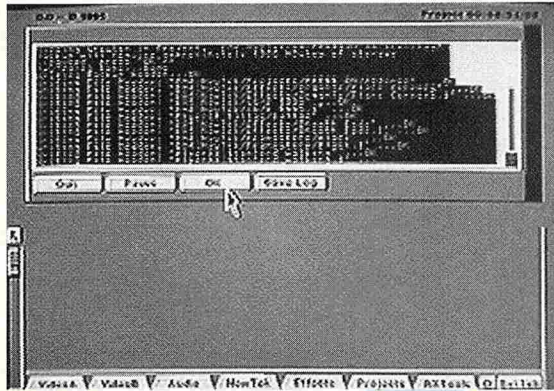
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I started the process by removing the terminating resistors from the Flyer audio drive and the Exabyte, making sure the drives were not terminated twice. (The Exabyte's termination packs are located on the top of the ribbon cable connector like any other hard drive.) Then I connected



Once the project is saved then hit the backup button and the menu above will appear.

the tape drive to the audio chain C of the Flyer and installed an active terminator on the tape drive, properly terminating my C SCSI chain.

Rule number 1: Termination should always occur on the last SCSI device. I measured the length of the

compressed mode. It was a good suggestion that I took up with Exabyte.

At this point, I must say Exabyte's technical support staff (1-800-445-7736), especially Bob Zegarelli and Luther Burch, were not only professional but very responsive to my problems. Bob already knew about the Flyer and the fact that one should not try to back up Flyer projects in a compressed mode. How do you know if you are backing up in compressed mode, you ask? Remember the amber flashing lights I spoke of earlier? They indicate compression!

Rule number 2: When writing in uncompressed mode, the Exabyte's 8505 lights should be *green*. Bob then proceeded to send me—next day and free of charge—an Exa-

byte download tape P.N. 313184-000 which has the capability to automatically change the firmware so the drive can read/write information in uncompressed mode. Unfortunately the correction didn't do the job. I got back on the phone with Bob and another next-day delivery allowed me to connect the drive to a PC and finally change its firmware the old-fashioned way—hard-wire and direct commands. This time I was successful.

Now if you were a betting person, what would the chances be of the drive still not backing-up properly? Well, I got the same old bad media error messages, but I was making progress. Clean the drive heads Bob said, and in the mean time he sent

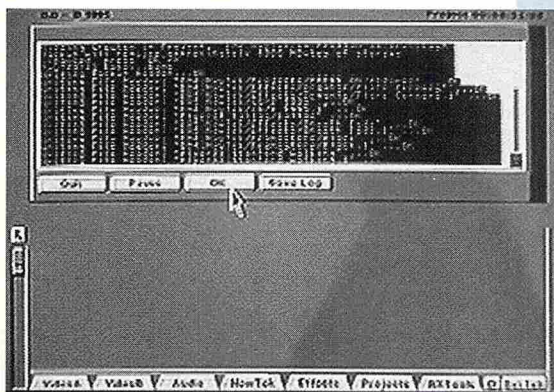
as with any other tape format, maintaining a clean and temperature/humidity controlled environment is a must for reliable performance. If you consider that the data bits you are storing are smaller than dust particles, you can easily understand how important cleanliness can be! When a tape drive or other computer system is turned on, its power supply fan will cause air to circulate in and around it. If the air is contaminated with smoke, dust, or cat hair, this debris can land on the heads or the tape, reducing the reliability and back up performance of your drive.

Rule number 3: By minimizing contamination, all system peripherals will benefit. By the way, for those of you who may be tempted to use regular 8mm video tapes instead of data grade tapes, please remember that the magnetic density of the grades is different. With video tapes you stand the chance of increasing the error correction code (ECC) on rewrites due to dropped or lost digits, equating to lost video/audio information.

For another example, look at the VHS vs. S-VHS tape. You can't drill a hole in VHS and use it as a S-VHS tape. Again, the density is different. If you want better quality, you have to buy S-VHS tapes. According to Exabyte, backing up on 8mm video tapes can result in less capacity per tape or shorter shelf-life. All in all, you may be able to get by with using a video tape if the project you are backing up is not that important, but you may end up not being able to restore parts of it at a later date. You have been warned.

The bottom line: 1) Connect your backup drive on your audio SCSI chain, and make it the last device. 2) Terminate the tape drive preferably with an active terminator. 3) Make sure all your SCSI chains are constructed properly and are within SCSI length specifications. 4) Buy a tape drive that records in uncompressed mode. Specifically ask your dealer for this feature—it will save you from doing it yourself. Remember that the Flyer clips should not be recorded in compressed mode. 5) Use good quality media because not all tapes are created equal. I know it's hard, but resist the temptation to skimp. 6) Do not use regular video tapes, they will not hold up as well. 7) Clean the

continued on page 63



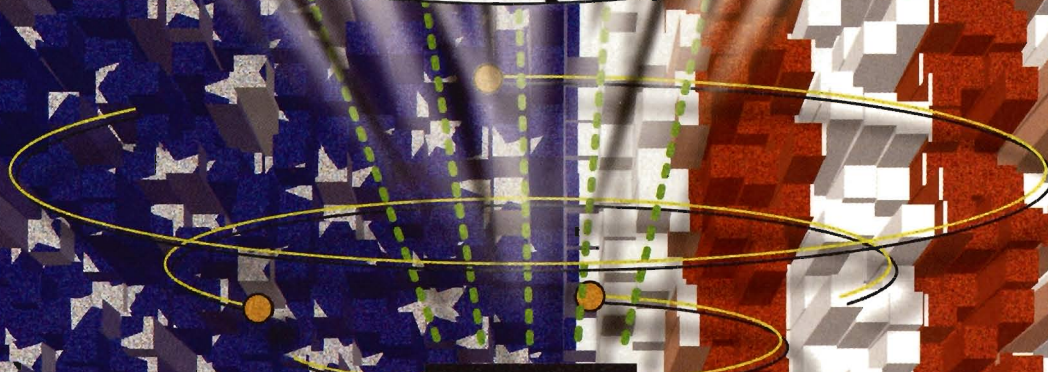
The backup will be performed automatically. Upon completion the Flyer will notify you that the project has successfully been backed up.

SCSI chain and it came to approximately 13 feet. So far so good. After checking the rest of the hardware connections I decided to give the backup another try, but I got the same results. Up until now I'd been yelling at the hardware. Now I decided to start yelling at NewTek, Exabyte, Alpha Video, the vendor I purchased the drive from, or any other unfortunate soul that was willing to listen. NewTek suggested I make sure I was not backing up in a

me a Harsh Environment Maintenance Cartridge (HEMC). He also advised me to use either Exabyte or Sony tapes only. (Sony manufactures both tapes but the Exabyte logo indicates that a stricter evaluation process is observed by their quality assurance personnel.) The regular cleaning tape I tried did not solve my problem, but the minute I put the HEMC tape into the drive, I was up and running within three minutes!

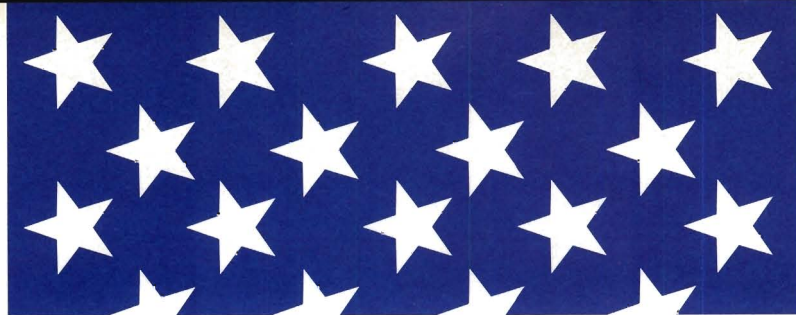
I now would like to point out that

THE TOASTER GETS



DRAFTED

by Matt Drabick



MILITARY AND GOVERNMENT TOASTER USERS

The Video Toaster has developed and maintained a loyal following as an affordable, real-time video production system that delivers professional results, yet is easy to use. Among government and military video production facilities, the Toaster can be found in the service of the U.S. Army, Air Force, Navy and Marines, the CIA, NASA, numerous police and fire departments, city and state governments and even prisons.

Toaster in Training

Technical Sergeant Scott Greenwell, of the 20th Logistics Support Squadron at Shaw Air Force Base in South Carolina has been using the Video Toaster for almost two years. Originally an F-16 crew chief mechanic, Greenwell is a self-taught Toaster user and single-handedly produces training videotapes as part of the base's Maintenance Training Flight.

Greenwell shoots and edits Super-VHS videotape using the Toaster for switching, ToasterPaint, ToasterCG and special effects. His original Video Toaster system included an Amiga 4000 with 18 MB RAM and a 540 MB IDE system hard drive with Toaster 3.1 software. He recently added a Flyer non-linear card with 4.0 software, along with two 4 GB video drives, a 580 MB audio drive, a second 580 MB system drive and a CD-ROM drive, all housed inside a Drive-In external case. Third-party utilities include ADPro and Directory Opus.

Training videos on F-16 aircraft

maintenance typically range from five to 20 minutes long. "Our training department and video production has grown at Shaw Air Force Base, and as the need for training videotapes has grown, money becomes available. One of the best things we have done with that money is to buy a Flyer. We take videos produced by the Air Force and tailor them to Shaw and our local maintenance program. We also create completely original videotapes," Sergeant Greenwell said.



Sergeant Greenwell uses his Toaster and Flyer system to create training videos and to compete with his unit for awards such as the Maintenance Daedalian.



He shoots all source footage with S-VHS for loading into and editing with the Flyer, and everything goes out on VHS dubs for distribution. Word has gotten out about the tapes and other Air Force bases have requested Greenwell's training videos for their own use.

LightWave 3D also plays a big part in creating the training tapes. LightWave "...can be pretty time-intensive, but I love it. I use it for flying logos. For our training tapes, I use animation to liven things up a bit. Some of our videos are shown over and over again, so it can get pretty boring for the maintenance crews...I also use LightWave to create images and effects that I couldn't normally get with a camera," he explained.

Greenwell uses the animation program to simulate what it looks like to fly an F-16 with the camera in the nose of the airplane among other effects.

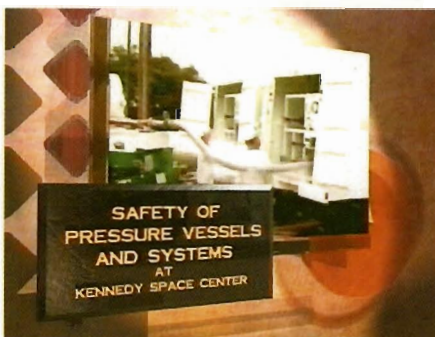
The base audio-visual department at Shaw also uses the Toaster, and Greenwell assists the personnel if they become overloaded. "We're tasked to do videotape functions, but our main purpose is training videos," he said.

He also uses the Toaster and Flyer to create animations for special situations. When Greenwell's unit competed for the Maintenance Daedalian Award, an efficiency award, he developed some videos for the people inspecting the base to see what the personnel had accomplished. He incorporated an animation using the outline of South

Carolina with an F-16 and A-10 aircraft, and a circle of flags from all the places the wing has been deployed, then created a 3D animation based on that image. "I used the Flyer to do that. We got the Flyer a week before everything was due. I had to take the existing footage that I had put out to tape, record that footage to the Flyer and then add the animation and create a new video. I was able to do all that because the Flyer is so easy to work with," he said.

The Toaster in Science

The Sandia National Labs located in Albuquerque, N.M., is a large contractor for the U.S. Department of Energy. Within the Aerospace Systems Development Center at Sandia, Mark Howard of the Special Projects Department uses the Video Toaster and Flyer to create LightWave animations for scientific and



Animation created by Hallberg used in the Pressure Vessel Safety video for Kennedy Space Center.

Flyer, Howard created three separate animations depicting the same objects and their motion paths, as viewed from different viewpoints on the bus.

"They were able to give me the X, Y and Z data for the motion files for all the objects. Using LightWave, I created

The video cameras on the bus are black and white, so the animation was created to match. To do this, Howard turned the color saturation off and saved the animation frames as black and white files.

The differences between the beta copy of LightWave for SGI and the Amiga version are minor, Howard said. The user interface is the same for both versions, but things do come up a little differently due to the X-Windows or UNIX environment for the SGI platform.

Howard is a big fan of the Toaster and Flyer. Previously, he used a Nucleus SFC and a Sony BVU-800 U-Matic VCR to record his animations. "I definitely like the ease of use with the Flyer. For playing back animations, with the same animation playing over and over, the Flyer is perfect. Being able to add sound is nice. I have a big CD library of sound

technical visualization purposes.

Howard, who has been with Sandia since 1986, has an extensive computer modeling background using PCs and SGI machines. Howard says LightWave and the ability to record and playback 3D animations was a major reason for working with the Toaster. He uses two Toaster systems—Amiga 2000s with '040 accelerators, one with 16 MB RAM and the other with 32 MB RAM. One of the Toaster systems has a Flyer with several 2 GB and 4 GB hard drives. Both systems have CD-ROM and Iomega 150 MB Bournelli drives to transfer data between the two Toaster systems. Future upgrade plans include a new Amiga 4000 Tower.

Howard also uses an SGI Indy and Indigo, and he recently purchased LightWave for SGI. The Flyer is networked with the Indigo 2 machine, and Howard renders his animation frames on the Indigo 2 and then transfers those frames or even mounts his SGI hard drive to his Flyer to create Flyer clips that can be played back in real time.

Howard creates animations strictly for internal use, separate from the work done by Sandia's AV department. One of the 11 departments within the Aerospace Systems Development Center asked him recently to depict various objects flying away from a "space bus" orbiting the earth, as viewed by three onboard video cameras. Using only his



More of Sergeant Greenwell's handiwork.

the 3D objects and the scene files and then deployed all the objects using the camera time line," he said.

"I located my camera on the bus with the same field of view as the camera on the bus would see. There were three cameras, so I created three animations with the camera in three separate places. Using the Flyer, I was able to splice the animations together to show what everything looked like when they switched between cameras at such and such time. The animation was designed to show how fast those objects would really be moving in three-dimensional space," Howard explained.



Not all of Hallberg's work is for NASA. This toy robot is just for fun.

effects and music beds perfect for backgrounds."

Toasters in Space

Michael Hallberg works with I-NET Space Services, a NASA contractor located at Kennedy Space Center in Florida. I-NET has about 200 employees and six people working in the multimedia group, which has existed for almost four years. I-NET's multimedia group uses a Toaster in an Amiga 2000 with an '040 accelerator, 16 MB RAM and 3.5 system software. An Amilink system controls two AG-7750 and one AG-7650 Panasonic S-VHS VCRs for editing purposes. In addition to the Toaster, LightWave is run on a Pentium 133 MHz PC and a DEC Alpha 275 MHz PC, all networked together. Hallberg's favorite software includes ADPro, ToasterPaint, the object library Humanoids and PhotoShop.

He used the Toaster/ Amilink system



Instructional animation for the Automated Window Inspection Device on the Space Shuttle.

for videotape editing until the arrival of a Media 100 non-linear editor. Now, both the Toaster and Media 100 are tied together as part of the same editing system. Using a Y/C plus adapter, S-video output is taken from the Toaster and fed through a router to the Media 100's S-video input.

"For editing, the Media 100 gets the most use. For other applications, we still use the Toaster quite a bit. The Media 100 is a Mac-based non-linear editing system. We use S-VHS tape for acquisition in the field and the Media 100 for editing," Hallberg recently had a monster project dropped in his lap—a two-week deadline for a two-month project, he said. Hallberg did almost all of it using the Media 100 except for the CG, and did a lot of graphics in PhotoShop, ToasterPaint and credits rolling in ToasterCG. "The ToasterCG is better than the CG with the Media 100," he said. Hallberg completed the introduction with Cosa AfterEffects.

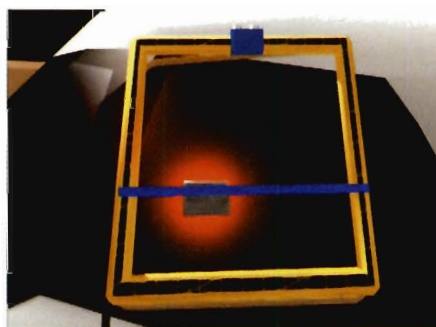
"A typical production (and I use the term loosely because we haven't had a typical production to date), is on the average 12 to 15 minutes with intro animations and supplemental visualization animations," Hallberg said. To begin with, Hallberg and his team acquire as much footage as possible, setting up shots with NASA and other contractors at all the facilities such as launch pads, landing strips and orbiter processing facilities. They set up scripts and research with the client from NASA.

"To give an example, we did a video for the pressure systems and pressure vessel group at Kennedy Space Center for training and documentation...We did the research, scripting, selection of music, animations and editing. Distribution was done on videotape, CD-ROM, kiosks and even a World Wide Web site," he said.

"We've had situations when we've had to edit two video projects at the same time," Hallberg added. Having the Toaster and the full A/B-roll tape editing system, plus the Media 100 has been helpful, but so has the Toaster's switcher. He doesn't generally use the typical Toaster effects for his videos, just dissolves and cuts.

Toaster Undercover

David Paige of Rockville, MD has been working with the CIA for the past five years under a personal services contract. He first started working in television back in 1972 and became interested in computer graphics in the early 1980s, buying his first Amiga in 1985. He's been doing 3D animation work



Hallberg's animation of the scanner on the Orbiter.

ever since. Paige has four Toaster systems, his main system being an Amiga 2000 with 64 MB RAM, a GVP 68040 33 MHz accelerator with two 1 GB hard drives, Toaster 3.1 and LightWave 3.5 software, a FireCracker and an AD-516 sound card. He also has a Pentium 100 MHz PC running LightWave under

Windows NT with 32 MB RAM, a 1 GB drive with a DPS Perception card. Paige also uses an Aspen Systems DEC Alpha workstation with 64 MB RAM, 3 GB



Part of the robot demonstration, just for fun.

hard drive storage running LightWave and ScreamerNet, all networked together with a PowerMac.

The other three Toaster systems are an Amiga 2000, an Amiga 3000 system with a PAR, and an Amiga 4000 that is primarily used for live multimedia presentations. He uses Perception as a digital video animation recorder.

His favorite software includes ADPro and ImageFX on the Amiga, WinImages on the PC and PhotoShop plus AfterEffects on the PowerMac. Paige also uses a Sony PVW-2800 BetacamSP VCR for recording the Perception's component video output. Paige used VideoScape 3D, written by Allen Hastings, continuously through 1990. "One of the great things about the Video Toaster was that LightWave was the ultimate upgrade to VideoScape. The things that I knew about VideoScape made LightWave more immediately usable than people who hadn't used VideoScape before," he added.

"As everyone always says, LightWave has a very easy-to-use interface combined with the ability to be very precise. For example, entering numeric information as opposed to simply moving things around on the screen by hand using the mouse. And that's very, very important when you're doing technically oriented animations," he said.

Paige has worked with many clients over the years. "Currently, my only government or military client is the CIA. But I have done work in the past directly for the U.S. Navy and Defense Nuclear Agency plus worked with various contractors who worked for the government," he said.

Working for the CIA requires a security clearance that limits what he can say

about the work he's doing for the agency. "The productions I do for the CIA are typically for the purpose of briefings, so I would call them video briefings." The briefings typically run from a couple of minutes up to 10 or 15 minutes in length, and almost always use some form of computer graphics—usually 3D animation. "There is no other way to get footage that would explain



Hallberg at work with the camera atop pad 39B with ET solids in the background.

the topic they are trying to explain. Almost always it's technically oriented or it's a recreation of a scene or event developed from data that was acquired from other sources, but is not directly viewable," Paige said.

He usually does just the animation work, not scripting, shooting or editing. He delivers the footage to the CIA and they incorporate the footage into the finished production. The actual editing work is done at the CIA because of its classified nature. "I do assist them in overall productions for the briefings. Part of my contract, in addition to 3D animation, is [to] assist them in the production itself," he said.

Paige says the CIA has at least 10 to 15 Toasters in the Washington, D.C. area.

"The thing that remains so nice about the Toaster is its value, its performance for the buck. On the PC it's difficult even today to get the same combination of features: a 4-input switcher, a CG, a video paint program, a 3D animation program and the color special effects at the same price. And with the exception of LightWave, it's all real time. So again, I like the feature set for the money and its relative ease of use," said Paige.

Local Toasters

Jeffrey Moshier has been working with the city government of Richardson, Texas, for the past five years and is now the executive producer of Citizens Information Television (CITV). CITV is the video branch of the information department for the city of Richardson, and uses the Toaster for its video editing and animation work.

CITV has one Toaster in an Amiga 2500 upgraded to an '040 board, 24 MB RAM, 3.1 system software, a 200 MB hard drive plus a removable 270 MB SyQuest drive for animation purposes. Third-party software is limited to ADPro and Deluxe Paint, and AmiLink is used to control BetacamSP editing VCRs.

According to Moshier, CITV works exclusively for the city manager's office in support of the local government and departments. For example, they produce public relations programming to tell businesses why they should relocate to Richardson. They also produce PSAs about the annual wildflower festival, which are played on broadcast TV stations. "Most of our programming is public relations for the city, explaining the benefits of living in our community—both for businesses and individuals," he said. CITV also produces educational programming for its staff as well as for the public, and programs usually run anywhere from 30 seconds up to 20 minutes. "We just finished a program called 'Die Young' on teen drinking and driving that we did in conjunction with the fire department after a series of pretty serious accidents in our community. The fire department is now taking the video around to area schools to give a presentations and has been very successful," he said.

"The video 'Die Young' on drinking and driving has had a real impact on our community. The school district was so impressed with the video that they created a curriculum about it...It has also been picked up by several state and at least two national organizations including Mothers Against Drunk Driving. The

producer, Jesse Maclean, used a lot of the Toaster's more wild effects in that tape. The tape was especially designed for a teenage audience," he said.

CITV used several focus groups to find out what teenagers wanted to hear and how to reach them. One of the things they learned is that teenagers are really tuned into some of the more visual effects such as color cycling. "'Die Young' has won us a couple of national awards so we're been really happy about it," Mosier said.

Productions are generally distributed on VHS tape. "We also play back appropriate programming over the city cable channel. We feed the local cable company with material on a 24-hour basis. One of our other Amiga's runs Scala InfoChannel," Mosier said.

As far as Toaster features go, Mosier uses the Switcher the most, followed by LightWave and ToasterPaint. He uses LightWave for title sequences to increase the quality of the programming.



Hallberg only had a two week deadline for this latest video for Kennedy Space Center.

"LightWave gives a higher quality look for visual effect," he said. "We used LightWave to create a 3D CITV station ID for our cable channel."

Despite the influx of Pentium and Alpha-equipped PCs and even SGI computers with their faster processors for modeling and rendering LightWave animations, Toasters play an important role in many of our government agencies and the military. For real-time switching, special effects, 2D paint and character generation, nothing has been released on the Mac, PC, SGI or any other computer platform for performing real-time video with professional results that does what the Toaster can do.

VTU

EDITORIAL EVALUATION

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From PROTOTYPE to PROFITS

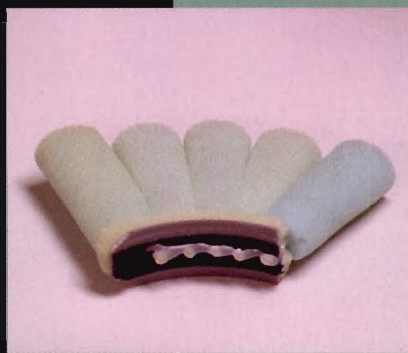
Using

the Toaster

in Inventive

Ways—

Literally!
by Jerry Hatchett



Since I purchased my first Toaster system in 1992, it's been put through the traditional paces of corporate and industrial video production, such as weddings and various other video and 3D animation chores. But here's a story of using the average Toaster-based system in an innovative and unusual manner to create a popular, profitable, mass-market product.

About a year and a half ago, I found myself in the unplanned role of inventor. It all began with a run-of-the-mill conversation as my sister-in-law and I watched an infomercial on television and talked about how "we oughta come up with something like that..." My sister-in-law came up with the problem, and after I assured her that we were partners, she told me that we should invent "something to let women French braid their hair." Being the determined type, I went home and did it.

The resulting tool is the EasyBraid, enabling women to quickly and easily perform fashionable French braids on their hair. It has sold over 100,000 units, can be found on retail shelves across the nation, and is a regularly featured product on the QVC cable network. The Video Toaster, along with supporting software, was an integral part of the tool chest used to take the concept from its initial form (raw mental mush held together by only a steadfast belief that the product was a winner) to its final status as a popular mass manufactured product.

After finally hashing out a functional design, the next concern was to make it *aesthetically* pleasing. Enter The Virtual Prototype Machine, aka LightWave 3D. It occurred to me that I could use Modeler to build "virtu-

al prototypes" in a mere fraction of the time it would take in the tangible world; and when a redesign was in order, I'd be able to do it with a mouse instead of an X-Acto knife and a hot glue gun. Doing it this way, we could get *exactly* the look we wanted, in three dimensions, before spending a dollar a minute on actual prototype construction. I decided that I'd build it in Modeler exactly as if it was being built by hand, one piece at a time.

A Hairy Tale

Step one was to build the frame, which consisted of a curved base with five vertical shafts arising from it at equally spaced locations (Figure 2). To create the five foam "fingers," I started with a simple disc, extruded it into a three-section cylinder, then used LightWave 3D's taper tools to give it the finished shape. Clones were created using the proper offsets, and the result can be seen in Figure 3. Only one part remained, that being a foam base that fit between the foam fingers and the curved plastic base. By copying the plastic base into another layer, then placing the original layer in the background, I was able to move the foam base up to the proper position, then manually drag the corner points around just a bit to make everything line up nicely. After assigning the appropriate surface names to the different parts, the objects were saved (both separately and as a unified one-piece object) and exported to layout for surfacing (Figure 4). The white plastic surfaces of the "skeleton" required very little change from the default surface settings, basically just a little increase in specularity. The foam surfaces were created and I was ready to render.

After the first crude working model had been crafted, the next step was to use LightWave 3D to create "virtual prototypes." Although the working model fulfilled its duty (it worked), it fell woefully short in the aesthetic arena. And while the manual creation of actual prototypes is both expensive and time intensive, LightWave versions could easily be refined quickly and cheaply, allowing the design to move quickly through each stage.

It was wonderful! All at once, we had the ability to instantly see *exactly* what the product would look like in *any color* and from *any angle*. By going back into Modeler and using the size and stretch tools, dimensions could also be quickly perfected from

an aesthetic standpoint. Within a couple of hours, we had a product on screen that looked great. To fully appreciate this, you must understand what was involved in the next step, which was the building of "real-world" working models (to be technically correct, prototypes look exactly like the final manufactured version, which was beyond my capability to fabricate) to match the on-screen imagery.

Presto-Change-o

First, a pattern had to be made of the skeletal frame. This was done using wooden dowels and portions of wooden embroidery hoops glued together, shaped and sanded. Since the actual product would feature a plastic skeleton instead of wood, a mold had to be made. I won't go into detail, but suffice it to say that it involved a lot of work and a considerable amount of expensive rubber that needed to be mixed, poured and cured.

Once the actual design was decided upon, LightWave was again used extensively to choose the exact color we wanted. We didn't have to wonder what it would look like in hot pink or cool blue; in the time it took to render a frame, we could see exactly what it would look like. With the Toaster, we were able to iron out the changes before spending a week or more to create these working models. Without the Toaster, can you imagine how long it might have taken to finally arrive at something that looked good? The word that comes to mind is—*invaluable*.

With our design and colors in place, tangible prototypes were created, and then it was time for marketing. Back to the Toaster! Okay, so you're thinking that the Toaster played its role admirably, then faded off into the distance, right? Wrong. Although new to the invention game, I knew that it would take far more than a couple of simple working models to convince some corporation to invest the huge sums of money it takes to turn an idea into a product ready for the shelves. It would also take, among other things, a great *presentation* to show the would-be product in its best light.

Welcome Back, Mr. Toaster

I started moving rendered images of the product from the Amiga to the PC, where they were incorporated into the printed portion of the presentation package. With LightWave 3D graphics, a decent desktop publishing program, and

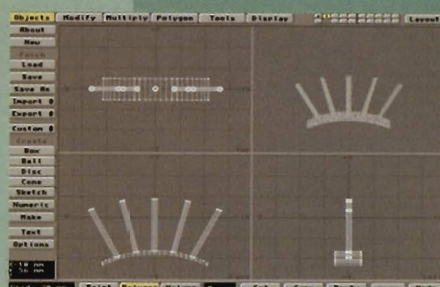


Figure 2

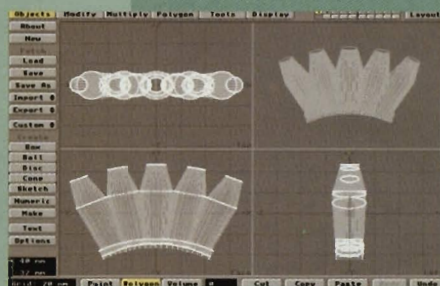


Figure 3

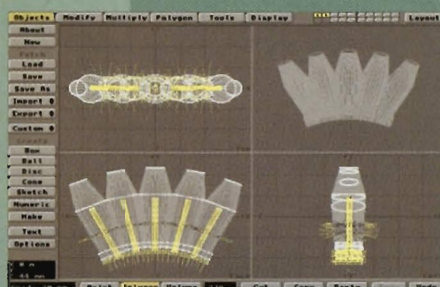


Figure 4



Figure 5



Figure 6

a Hewlett Packard 550C DeskJet printer, I put together some fairly snazzy pages that touted the wonder of our creation. And to give further credibility to the

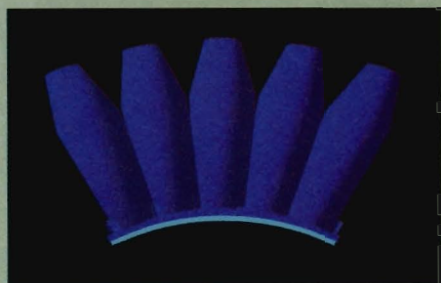


Figure 7: A rendered version of the completed model.

invention as a real product, mock-up packaging was fabricated that also used LightWave imagery on the cover.

Now we had a product that worked like a charm and came with great printed material. What else could we possibly need in the way of presentation materials? What else could we do to boost credibility, highlight the strengths of the product, and exploit the shortcomings of failed products that had come before?

I went to work producing a top-notch promotional video for the product. The five-minute presentation

included dozens of graphic screens created in InnoVision's AlphaPaint, a 'technical' 3D animation via LightWave, and the video was edited *entirely* on



Figure 8: Meet the EasyBraid.

the Toaster. Armed with our presentation package, we went to a conference in Los Angeles where we were able to meet face-to-face in private meetings with 15 of the top infomercial companies in the nation. One comment that was repeated often as these potential licensees viewed the video was: "Wow, you've already spent a lot of money on this thing!" (These guys deal on a daily basis with "high-end" video producers.) I saw no need to correct them.

The conference was immensely successful for us. By the time we left, we had *three* large corporations practically

begging us to let them spend the hundreds of thousands of dollars it would take to bring the product to market. We came home to Mississippi, negotiated via phone, fax, and Federal Express, and signed a deal last spring. Immediately afterward, the company that licensed the product called and asked me to run 120 dubs of the video, so that they could distribute it to large potential retailers across the country.

When it was time for the product to begin actually appearing on the QVC cable network, they asked for a five-minute video "pitch" of the product by my sister-in-law. Guess what? That's right: Toaster time! She's been the official on-air presenter of the product ever since.

VTU

Jerry and his wife own and operate JTP Enterprises in Tupelo, Miss. The company furnishes quality video production and graphics, operates a retail business, and is currently developing several new products for the national market. Reach Jerry at 76460.266@compuserve.com, or by phone at 601-841-9398.

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Particle Storm Rising

Animation in the Eye of the Storm

by Patrik Beck

LightWave 3D, like many programs that share a common ancestry on the Amiga, derives some extra flexibility from the fact that it can be accessed and augmented by third-party programs, such as ARexx. NewTek allows the same sort of access on the Intel version of LightWave through the use of plug-ins. One of the newest and most exciting of these plug-ins is a product from Dynamic Realities called Particle Storm, a powerful particle

animation system. An animation created using Particle Storm is incredible in itself, but add in glow and motion blur, and what you render will be nothing short of magic.

Dynamic Realities, previously known for Impact, released for both the Amiga and PC. Impact is a program that can imbue objects in a LightWave scene with physical properties and calculate their effects on each other with the given mass, velocity and gravity. While very technically accurate, Impact's usefulness is limited to those who need reproductions of falling and colliding objects. Particle Storm is easier to handle. After some basic instructions, I was able to render a scene created with Particle Storm a mere *two hours* after I installed it on my computer. This is a very powerful program, but it is only available for the PC. Still, that is quite an accomplishment.

Action!

Particle Storm, as the name suggests, allows you to create animations with what has come to be known as "particle effects". These effects are often used to simulate real world events that are too random or complex to be effectively simulated using full-scale objects. The motion of gases, dust and fire are most easily simulated with particles. With Particle Storm, speed, density, distribution, color and even the transparency of the particles are all adjustable by the user. Most properties are variable over time either by manual adjustments or by the use of envelopes.

The particles directions are altered by various attractors and deflectors, such as gravity, forcefields, wind and flocking magnets. All of these forces have variable strengths and influence ranges, and can also be varied over time. How does it do it? A single point polygon does not take much memory, but it takes several thousand polygons to get a credible effect, clogging up your objects list in layout and writing a horrendous scene file with the thousands of individual motion paths. Particle storm neatly side-steps the memory problem by creating one object that has all the particles contained within it. These particles are moved through space using a process very similar to displacement mapping. Because the particles are all part of a single object, the whole cloud can be manipulated and keyframed like any other LightWave object.

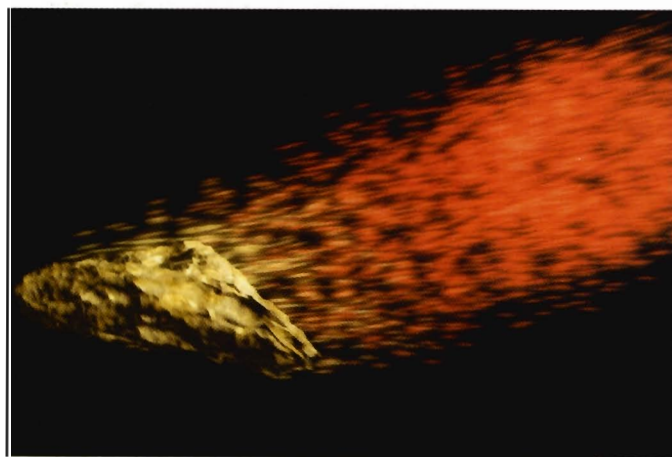
Setting up the Storm

Particle Storm loads as a plug-in and is activated by selecting PS- from the options panel. This brings up Particle Storm's layout screen. The view of the scene is set up by the user positioning the PS cameras set at any angle. A camera can also be slaved to the camera in the LightWave layout screen.

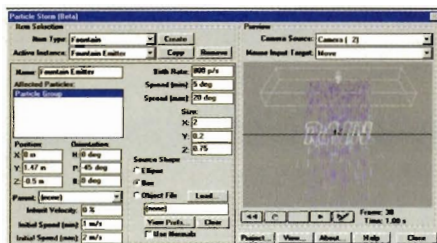
The screen starts with a single particle group and a fountain emitter, spraying the particles at angles and speeds determined



The Electric Crayon Studio demo uses an example of Particle Storm's popular Tinkerbell effect.



A comet using an effect like those seen on television shows like *Deep Space 9*.



The Particle Storm layout panel.

by the user. The fountain can be a sphere, box or arbitrary object to emit the particles appropriately. The amount of particles spewed by the emitter is adjusted by the "birth rate." They exist for the amount of time specified by the "death wish." When a particle dies it goes into limbo waiting to be recycled. You can exhaust the supply of particles by having the birth rate too high or by setting too long of a life span. In that case, increase the particle count of the particle object. If you leave the particle count low on purpose, you create a pulsing effect.

Once the particles leave the fountain, they can be acted on by outside forces, and several versions can act on the particle group at the same time. The Gravity function causes the particles to fall while allowing you to change its strength and orientation. The Wind force blows the particles around with the option of adding turbulence, inward force and maximum and minimum distance for varying degrees of deflection.

Force Field repels particles uniformly in all directions. When you select the Drag function of the particle group, the particles will shoot out of the emitter at top speed, and then slow down as if hitting air resistance. Very cool! Particles can also collide with spheres, boxes, and LightWave objects loaded into the Particle Storm layout. The rebound strength and "stickiness" of the collision object can also be adjusted.

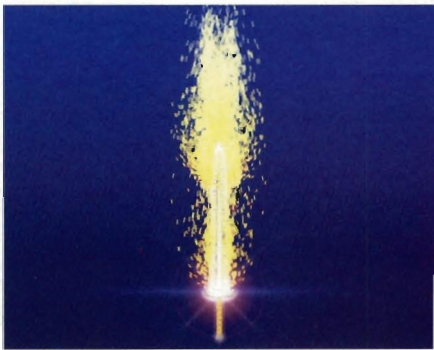
With the Flocking function, particles are drawn into the area of influence and sort of mill around the center spherical range, which can also be any size you choose. The strength of the flocking force determines what percentage of the particles flying by get attracted and how well they resist other forces.

Good Parenting

This is where things really get interesting. Everything in the Particle Storm layout scene can be parented to objects in the LightWave Layout screen. If your animated character is waving a magic

wand, you can parent the emitter to the tip of the wand. As the wand waves through the air, it will leave a trail of particles behind it. If you parent a null to a moving logo, you can make the null move across the front of the logo and parent the flocking function to that null. The particles will then fly off the tip of the magic wand and chase after the logo as it moves through space.

The surface of the particles are whatever you name the particle group, but you can have fun by using the particle shader. The particle shader allows you to color your particles and have the colors change over their life span by using a series of key frames within the particle shader attributes screen. Color changes can also be triggered by collisions with



This magical flaming sword was a snap with Particle Storm.

objects. The same screen allows you to keyframe an alpha channel to vary the transparency along with the colors.

Real-Time Feed Back

Unlike most programs of this nature, Particle Storm displays a scaled down version of your object in the layout window, allowing you to move the fountain, modifiers and collision objects while it is running. Change the values and you can see results immediately.

Like the numerical entry function in LightWave, all values can be input numerically, and many can be adjusted with the mouse. It is also possible to have several particle groups in the scene, each with their own set of parameters, being affected by only those forces specified to act on it. And Particle Storm projects can be saved at any point to be reloaded and modified later.

Getting It Into LightWave

The ultimate goal is to get the particles rendered by LightWave. When you have the settings you want, hit the

recording button on the preview screen and Particle Storm will generate an object and displacement map with those values. You can alter values and move things while it is generating the object, and if you used the particle shader, that information will be generated as well.

When enough frames have been generated, the process is stops and you can return to LightWave Layout to load the Particle Storm object. When the object is loaded, load its associated displacement map into the objects displacement plug-in area. The particle shader information is loaded automatically, and you can even check the motions of the particles by rendering a preview in the wireframe mode.

Smart and Sassy

I have bought nearly every macro and plug-in package available for LightWave both for the Intel and Amiga, and nothing comes close to matching Particle Storm in terms of raising the marketability of my LightWave animations. A particle animation system with this power and flexibility. Everything I found to complain about was due either to my unfamiliarity with the program or is currently being addressed by Dynamic Realities. (I should mention that I am working with a pre-release version, and new features are still being added.) If you are a serious LightWaver, I recommend that you buy this program as soon as you can. Honestly, it gives



Particle Storm's collision detecting bounces particles off stationary objects for this neat rain effect.

such impressive results that you will be hard pressed to lose a job after your client sees a Particle Storm enhanced animation. In fact, the only problem you may have is, after clients see your demo reel, they just might think they can't afford you!

VTU

Patrick Beck is a cool animator guy who can write. Reach him by e-mail at zip-pie@execpc.com

Shocking Vertilectric

Lightning Strikes Via New Plug-In

by Doug Johnson

Vertilectric is a special effects plug-in for LightWave 3D specializing in generating electrical effects like lightning, laser beams, electric arcs and plasma balls.

Installing Vertilectric is a snap, but be sure you use the "Changes to the Documentation" leaflet that comes with the manual. It has some important new information that can mean the difference between an easy install and a real headache. Vertilectric adds plug-ins to both Modeler and Layout. Modeler plug-ins appear in the Objects/custom menu and the initial appearance is similar to the demo version available from NewTek's



America Online area (among other sites), though you get several more choices for generating bolts than the demo.

When generating a bolt in Modeler, choose how detailed it will be by setting a segment limit. The more segments you request, the more detailed your bolt will be. Next, Vertilectric lets you choose branching and jaggedness for your lightning strikes. You can even determine how much twist your bolt should have, and determine the branching of the main bolt. Each sub-bolt has half as many branches as the parent.

The next field is for "Seeds", which allow you to control the randomness of the bolt. The "Random seed" button is checked by default, and this generates different looking bolts each time it's used. But if you're looking for similar bolts, you can use your own numbers in the "Seed" fields.

By keeping the same segment level, subdivide level, and number of branches, you can make morphable bolts. You can vary the twist, and shape seed numbers to give several different bolt shapes (all with the same point count). To do this, save each one as an object, and they're ready to morph.

Vertilectric uses "targets and sources" to create electrical effects. Once you've entered Vertilectric from the Object Replacement plug-in, define your targets and sources. Vertilectric will allow you to define 1000 sources and 2000 targets in any scene. These targets can even include lights and the camera. Selecting targets and sources is easy; just select a source from a list of possible candidates, then you select your targets from everything currently loaded in your scene. There's also an "add all" button in case you do have 2000 targets you want to affect.

After setting your targets and sources, choose whether you want Vertilectric to strike one target, the nearest target, or all targets available. Then, enter the "Set Parameters" screen to further define your effect. Within this menu, you can choose the surface for your lightning from *all* of the surfaces available to any LightWave object. (Search for your surface via a browse button next to the surface field.) Then, Vertilectric allows you to define the "look" of the bolt itself. Setting these options are similar to setting them in Modeler.

Vertilectric also allows you to set a strike sequence. Your lightning can affect all frames of an animation, sequential frames (such as frames 100-115), or non-sequential frames (such as frames 10, 17, 19, and 23). Envelopes are also available in most every portion of the plug-in. You can save/load envelopes to make Vertilectric work with other aspects of LightWave, (for instance, lights that flash as a bolt hits).

Vertilectric also includes a bonus plug-in called Points2Nulls that allows you to convert up to 900 points into NullObjects, perfect for a variety of uses.

And to add to the pluses of Vertilectric, technical support at Blevins Enterprises was very responsive. While creating a large animation with Vertilectric and a tight deadline, my co-animator, Mike Masee, came across what we thought might be a bug. Mike immediately contacted Blevins Enterprises via E-mail, and we had an answer in no time at all.

The 56 page manual that accompanies Vertilectric is clear and easy to use. It includes several tutorials to help the user become proficient fairly quickly. I used Vertilectric in combination with Sparks (another fine program) for a client's project, and I was able to create huge 1000 point electric particle-filled explosions that blew me—and the client—away. The freedom and control Vertilectric allows is really astounding. Once I started playing with it, I immediately got a ton of ideas for uses that go well beyond lightning strikes.

I really can't say enough about Vertilectric. Is it worth the cost? Yes. Is it easy and fun to use? Yes. Does it do what they claim? Yes—and more. This is the first plug-in that has really blown me away and now I find myself playing with it almost like it's a video game.

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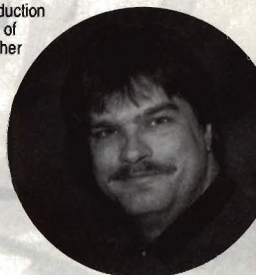


DON PENCE:

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

STAN SHUMLICK:

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



RICK BERTA:

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

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HAROLD RUSSELL: not pictured

Owner of Atomic Software and president of Media Services Management in Salt Lake City, Harold is the programmer of Radar (Time-Line for the Flyer) and Filte Gear and is the author of the Atomic Toaster Catalog. Harold has taught hundreds of users in the seminar series "Aliens Ate My Toaster" and produces several training videos instructing users on how to use Studio 16 and MIDI systems with the Toaster. An experienced editor, animator and musician, Harold will bring years of production skills and Toaster/Flyer savvy to the AMG Media seminars. Harold teaches "Pieces to Production."



DAN ABLAN:

Dan is President of AGA Digital Studios, a 3D graphics and animation company in downtown Chicago, and author of the monthly "Dr. Toaster" column in Video Toaster User and "Internet@lwpro.online" column in LIGHTWAVEPRO. Dan is an experienced LightWave 3D trainer and has taught hundreds of users at various AMG Media seminar events. Upcoming resources from Dan include: the 500-page "LightWave Power Guide" for New Riders Publishing, and two training videos, "LightWave 2D!" and "Learning LightWave through Logos" as part of the In.Focus series from ProWave. Dan teaches "Unlimited Animation."



TOM PATRICK MCAULIFFE:

Tom is the Editor-in-Chief of Video Toaster User magazine and owner of Reel Communications, an audio/video production and PR firm in the San Francisco Bay Area. A former award winning US Navy photojournalist and videographer, Tom has produced national TV commercials and corporate multimedia presentations and teaches digital video production and photography for adult education. Tom's unique blend of skills, experience and humor will help you get more from your Toaster investment and walk away feeling inspired to tackle new challenges. Tom teaches "Pieces to Production."

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From Pieces to PRODUCTION

monday

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tuesday

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Wednesday

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ImageFX 2.6

Totally Toasterized

by John Jackman

It's said that lightning doesn't strike the same spot twice, but the programmers at Nova Design are allowed to strike as often as they want to! The new release of ImageFX 2.6, raises the level of Amiga-based image processing another notch. Enhancements include Toaster Flyer 4.1 support, CyberGraphX support, new scanner and printer modules, and several new effects.

For many years, there was a neck-in-neck race between

the trademark "Lightning" effect is enhanced with more options. Other new processing modules include "Bubbles," "Distort," "Film Grain," "Remove Grain", a realistic and complex "Fire" effect, "Gaussian Blur", "Liquid" distort, "Sparkle", and a new "Sponge" drawing mode. A color balancing operator has been added and the JPEG modules are updated. Because of legal problems with the GIF format, the GIF load and save have been dropped.



ADPro, ImageFX, and ImageMaster. Each had strong points and weak points, but development of ADPro and ImageMaster have virtually halted, while steady progress has continued on ImageFX. The new ImageFX 2.6 adds a number of professional features that truly make this software the standard in Amiga image processing.

New Features

The primary feature of interest to Flyer users is the fully integrated support for Toaster 4.1. Flyer clips can be loaded transparently as sequences and complex processing effects applied with no conversion. Preview modes allow the user to draw directly on the Toaster Framebuffer, using the Toaster as a real-time 24-bit display—a great alternative to the clunky ToasterPaint! ImageFX is indeed totally Toasterized with full CyberGraphX support for display boards with standard and enhanced printing is available through the "SuperPrefs" Printer Module. The Fargo FotoFun printer and Fargo PrimeraPro printers are supported by ImageFX and additional scanner modules have been added.

A new and powerful "Wire Removal" feature is included that can process out puppet or model wire supports, while

Overall Reactions

ImageFX 2.6 is a very powerful and complex set of programs which will take some time to learn well. However, the interface is simple enough for even beginners. A fat glossy manual was produced for release 2.0, with lots of illustrations and examples and additional features for 2.6 are documented in a 46-page addendum, which could use some expansion. In particular, the extremely complex "Lightning" and "Fire" effects need to come with a set of examples.

Technical support for ImageFX is excellent. The tech support phone number is actually answered by a real expert in the program! Tech support is also available by FAX and on-line through Portal, Compuserve, and Genie. Nova Designs even maintains a BBS, an FTP site at <ftp://ftp.novadesign.com>, and now has a nice Website at <http://www.novadesign.com>.

The ImageFX interface is comprised of a preview screen and a lower third overlay which contains the "nested buttons" control panel. I should say right here that I tend to dislike every image processing program interface I've ever seen—what I really want is a "thought recognition" interface! Because a program like ImageFX is so incredibly complex the programmers have two choices: Simplify the interface by

limiting user control, or provide full control and a complex interface. Nova Design chose to provide the user with almost complete control over every effect, and has still done a pretty good job of streamlining the interface. Complex effect panels have several "cycle" gadgets for various options. These gadgets work a little differently from the standard Amiga "cycle" gadget. Clicking the right end on the gadget will cycle to the next selection; clicking the left end of the gadget will cycle to the previous selection. Some of the gadgets have so many options that clicking through every option will give you carpal tunnel syndrome in a single sitting.

Clicking the center of the gadget pulls up a scrolling list with options. With all these options, it's easy to get lost at first. Fortunately, each control



panel is provided with a thumbnail "Preview" so that the changes can be quickly viewed without a full render. The rendering engine is quite fast for most effects. Images can be rendered to standard Amiga screens, most graphics cards, and directly to the Toaster Framebuffer. Output can be saved in 27 formats, including direct Toaster FrameStore and other platform formats such as Wavefront, TIFF, Targa, SunRaster, BMP, PCX, and Abekas.

The main program includes "hooks" to a number of external modules which include the new "Wireless" processor, the IMP and AutoFX multi-frame processors, the CineMatte bluescreen processor, and Nova Design's excellent morphing program, CineMorph. Just do me one favor—don't use CineMorph without proper motivation! I think we all overdosed on random acts of morphing in 1994. Perhaps there should be a Morphing Board of Review to supervise the unregulated use of the effect? Well, maybe not. A little self-control will do wonders.

Digital Magic

Some of the enhancements to ImageFX have come right at the time many of us are entering the Brave New World of non-linear editing. Flyer or V-Lab Motion users can now apply the full range of ImageFX processing features and effects to an entire video stream, rather than just using the program to process a single still FrameStore. At first this may not seem that significant, but in reality it opens up an entire range of high quality Hollywood-style special effects to smaller producers. At its simplest level, transitions that display ragged edges and blockiness in the Toaster can be rendered with superb definition and razor-sharp antialiased edges in ImageFX. And if you're tired of "Falling Sheep" and KikiWipes, an almost unlimited range of transition effects can be created in ImageFX (but that's another article!).

The price of this power, of course, is rendering time. Toaster Flyer pros will continue to use the best of the Toaster transitions in real time, and will use rendered ImageFX transitions only when the equivalent Toaster effect doesn't quite cut it. A prime example would be an "over-the-shoulder" graphic insert, where the fast scaling algorithms of the Toaster create a very blocky appearance. ImageFX can effectively add a classy frame, scale smoothly, generate an alpha shadow, and compose the insert over your talent's shoulder—and it will look as nice as an insert generated on Quantel or Ampex equipment. It just won't happen in real time.

Rendering time is less of an issue for users of the other Amiga-based non-linear editors, the V-Lab Motion and the Broadcaster Elite: they must render all effects, anyway. ImageFX is somewhat slower than the optimized VLM rendering engine, so there will be some additional rendering time. ImageFX is not quite so smoothly integrated with the V-Lab Motion system as it is with the Toaster Flyer, however. Directly exported V-Lab JPEGs do not always load correctly, sometimes generating a "Corrupt JPEG Data" warning. This halts processing until the user clicks OK. By the same token, it is difficult or impossible to directly reimport ImageFX JPEGs into the V-Lab video partition without running through the additional processing of the V-Lab MultiPic library. According to Kermit Woodlall at Nova Design, this relates to



Here's a control picture of me to begin our little experiment.

the JPEG implementation of the V-Lab. Nova Design and MacroSystem GmbH are in communication about fixing this mismatch. Since the frames appear fine after the user acknowledges the warning, V-Lab users can insert the "Requesters Off" command into each ARExx script, and bypass the warnings. Broadcaster Elite users can access JStreams directly from ImageFX using



Here's the relief map effect.

special loader/saver modules written by Applied Magic.

You can process video streams through the ImageFX AutoFX program or through "IMP" (ImageFX Multiframe Processor). Flyer users must use IMP, because AutoFX cannot access the individual files in a Flyer clip. AutoFX is the easier of the two programs to use,



The Straw effect.

Batch This!

The Final Chapter

by Michael McBride

In the "Batch This!" tutorial (February 1996 *Video Toaster User*) I outlined a system for scaling and compositing images of various sizes to a black background so they can be displayed with the Video Toaster. I admitted that the system needed improving, and asked to be informed if any readers had a better method for accomplishing the task.

ASDG eventually sold out to AVID, who now owns Elastic Reality. They've sold all remaining copies of Pro Control and no longer support ADPro.

My search continued for a simple "one-button click" solution. I'm now happy to say that after reading "Batch This!" a kind-hearted person solved this dilemma for me simply because he could. His name is Ross Fenmore, and he is a programming guru! He created an ARexx

program he calls Batch2Fit (B2F) that runs inside of ImageFX, an image processing program vastly superior to ADPro.

Now, before you drop this magazine in disgust and run over to kiss your ADPro manual, remember this—I was one of you. I introduced more "newbie" Video Toaster and LightWave users to ADPro than I can count. I picked up ImageFX 1.0 at a trade show the first year it was available, but didn't get around to learning it or even seriously taking a look at it until ADPro fell short of my needs.

All I can say is, if you're not familiar with ImageFX you should become so immediately. No program I've seen has the power to process, convert, composite or alter images and animations as easily and in as many ways as ImageFX. Not ADPro, not Photoshop, not Imagemaster.

Batch2Fit has not yet been added to ImageFX's ARexx library, but I expect it will be in the near future. For those who can't wait and type well, I've included the script here. Also, if you've got an e-mail



Scott Bates took up the gauntlet in his tutorial, "Batch This Too!" (April 1996). His is an elegant solution, but unfortunately relies heavily on Pro Control, a program that is no longer available on the open market. Pro Control was created originally by ASDG as a replacement interface for FRED, the batch processing attachment that operates inside their popular image processing program, Art Department Pro. ASDG changed their name to Elastic Reality and ported their morphing program, Morph Plus, to the Macintosh.



ImageFX's macro function memorizes your commands so the next time you use it you will only need to use a single click or the press of one key.



ImageFX crop tools makes little work of re-sizing images.

address write me and I'll send it to you, along with detailed documentation in a return message. (My e-mail address can be found at the end of this article.)

Now, on to the tutorial. ImageFX, especially the new 2.6



The original image ready to crop and process.

version, has gobs of features geared toward the creation and composition of extraordinary images. But one of its feature really caught my eye—its ability to record the user's movements and create custom macros through what ImageFX calls Command Processing. This outstanding tool allows users to create their own ARexx macros without having to know how to write a line of code.

Like me, many end users are clueless when it comes to the languages that make our favorite programs work. You concentrate on thoroughly learning every nook and cranny of the program, but

thinking about creating an ARexx script from scratch makes your eyes gloss over. Still, everyone at one time or another wishes they could create a custom script. Well folks, now you can!

This is a simple example of a powerful tool. Even so, it saved me quite a lot of time over the course of the entire project. I was creating a series of animations that involved mapping photos to the sides of a cube. Simple enough except pictures aren't perfect squares, they're rectangles. So it was necessary to crop and center each image. With dozens of images to process and very little time, I turned to my newest best friend—ImageFX.

Because the exact macro I needed didn't exist, I decided to make it. The process for recording a macro is outlined in chapter nine of the ImageFX manual. It's straightforward, but can seem a bit overwhelming at first. Forge ahead! It's actually quite simple.

First, open ImageFX and load the image that needs cropping. Next, press the "!" key (Shift-1), and a window will open labeled Select Learn File. This is a file requester window, which by default opens to the IFX/Rexx directory. Because we are creating a macro for the first time, you need

to type a new name into the File text requester. (I called mine Crop&Center.ifx.) Click OK.

Next, a small window will open asking you if you want to Record Current Drawing Settings. In other words, it's asking you if you wish to record the current state of the Toolbox (i.e. Drawing Modes, Styles, Edge Modes, Fill Modes, etc.). In some instances this could be useful, for example if the macro you were creating involved processing brushes instead of full screen images. Then you'd want the recorded state of the Toolbox to be in Brush Mode, as opposed to Full. The default state was adequate for me, but I clicked Yes anyway. I doesn't hurt to have that information recorded with the macro. You may choose No if you don't care to have the information recorded.

Once you've made your choice, the window will close and ImageFX will begin recording your every move. It should be noted that cancels and undos are not recorded, so you can make mistakes and correct them without having to start all over again!

With the image already loaded and Record Macro turned on, open the Size Menu and then the Crop Control panel. The default (if your image was saved originally as a Framestore) is 752 x 480. I didn't want any black borders, so I left the vertical alone and simply changed the horizontal size to 480. After pressing return to accept the new setting, ImageFX places a bounding box over the screen that represents the final size of the image after it is cropped. You can see it better if you send the menus to the rear and bring the image forward by pressing the right mouse button. Pressing the right mouse button again brings the menus back to the front.

Now, you still need to center the crop. This can be done in two ways. First, you can simply click and hold down the left mouse button with the cursor in the center of the crop, allowing you to pick up and move the crop. Then, place it so it's centered over the section of the photo you wish to use and release the mouse button.

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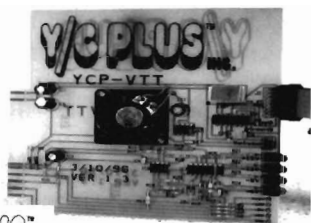
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The second and more accurate way is to use the Offset requester to the right of the Size requesters. An Offset of 136 in the left window will place the crop dead center (752 minus 480 divided by 2 = 136). Now click Crop and watch how fast ImageFX does its work.

Incidentally, this is a good time to state that I love ImageFX's Size/Crop tool! It's so easy and elegant compared to ADPro. In fact, *everything* about ImageFX is easier. I shiver when I think of how long I continued to use ADPro while my ImageFX 1.0 sat lonely on the shelf. Well no more!

The last thing to do is tell ImageFX to stop recording the macro. Simply press the @ key (Shift-2). A small window will appear stating the recording has stopped. Click OK and it will disappear. That's it! In your IFX/Rexx directory you'll find a new macro with the name you've given it. As a test, reload the original uncropped image. Now, open the Toolbox Rexx requester and select your macro. Click OK. You should see it whiz through the macro at the speed of lightning! To make the process even more powerful, you can even assign your new macro to a single key. And with AutoFX (ImageFX's batch processing engine) you can automatically load, process and save entire directories of images, with your own custom macros, making your batch processing job even easier.

This is only one of the many new and innovative features ImageFX has to offer. For me, it's one of the most powerful. This macro we've just created only involved a few steps, but I can imagine macros that would involve hundreds. There's no limit to the complexity of the macros that can be created in this way! And all without having to learn to write a single line of code. I told you we could do it!

Thanks again to Kermit Woodall and Bob Fisher of Nova Design for creating this wonderful product, and to Ross Fenmore for his skill and generosity in writing the Batch2Fit macro.

Find Ross Fenmore's "Batch2Fit" macro on the *Video Toaster User World Wide Web* site at <http://www.portal.com/~amg>.

Michael McBride heads Caldor Corp.'s video/graphic department and owns CyberGrafx.3D, a modeling animation company in Connecticut. He can be reached at 76601.2354 @Compuserve.com. Ross Fenmore can be reached at rfenmore@netcom.com. Nova Design (ImageFX) can be reached at (804) 282-5868.

Tech Tip Of The Month

Hard drives on the Amiga are formatted using a DOS file system called the "FastFilesystem," or FFS for short. When you elect to format a hard drive on the Amiga, you have the option to use an "International mode" which FFS offers. If the user attempts to run the Video Toaster and Flyer software from an installation on a drive formatted with the International Mode option it will either not run at all (you double-click on StartToaster, but nothing seems to happen) or crash immediately.

To avoid this, you must format drives with the "International Mode" option turned off. Recently, a user reported that Autohue will fail if the software is installed on a drive that has been formatted using the AmiFileSafe (AFS) file system. AFS is a replacement for the standard FFS for hard drives, and in fact we use this product on our BBS system drives, because unlike FFS, AFS drives are not invalidated if the system crashes while a file is being written to the drive.

This user reformatted the drive as FFS, and normal operation was restored. Other users have reported no difficulties on AFS partitions, so this may be a problem for only a particular version or system configuration. We are still researching the issue, but do recommend that if you have your Toaster software on an AFS partition and are experiencing difficulties, you should reformat the hard drive as FFS.

Chuck Baker, NewTek Inc., Technical Support Services. Reach him at tech support e-mail: tech@newtek.com or Tech BBS 913-271-9299.

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Circle 072

Useful
Circle 073

Not Useful
Circle 074

since it comes with a variety of stock AReXX scripts to apply processing effects over time. However, part of the real beauty of ImageFX is its almost unlimited configuration of effects. Much of this advantage will be lost to those who only use the stock AutoFX scripts. The best, most powerful use of ImageFX is found in using IMP to apply custom AReXX scripts. Through these you can do almost anything



Splish, splash. It's the Bubble Filter!

except lose those extra ten pounds or regrow hair! But if you're an AReXX ignoramus like me, the thought of writing custom AReXX scripts for every special effect has quite a chilling effect. The AReXX-challenged user can be thankful that Nova Designs has integrated a well-implemented and powerful Macro recorder that automatically creates complex and precise AReXX scripts. Just start the Macro Learn function, and perform a series of image processing operations via mouseclicks in the main interface. After you turn off the Macro recorder, it will create a script incorporating every step, coordinate, and setting. You can then save this file as a permanent script for use in either AutoFX or IMP. Even beginners can create immensely complex scripts using this feature!

High-End Comparisons

So how does ImageFX really compare to the industry big boys, Photoshop and AfterEffects? Quite well, actually. There are a number of film and television effects houses that still use Amigas only to run ImageFX. Numerous current television shows use ImageFX frequently, including such programs as *Star Trek Voyager*, *Animaniacs*, *Babylon V*, and *The Tonight Show*. These shows use ImageFX primarily due to its flexibility and its AReXX functions. Image FX also

operates at any resolution, allowing it to be used on high-resolution digital film work as well as video production.

AI Effects, Inc., a video and film post-production firm in Burbank, CA, is one effects house where ImageFX is put to use. According to AI effects wizard Tony Alderson, AReXX is what gives ImageFX its magic. "Batch processing on a Mac is a real pain," Alderson says. "Automating the effects in Photoshop can be really difficult. But with AReXX, I can write a script that will do just about anything in ImageFX." He rates Photoshop as a better paint program, but thinks that ImageFX wins hands down for configurable animation effects. In part, this is because ImageFX has always been video-oriented, while Photoshop's roots are as a publishing program. "Many of the Photoshop plug-ins provide very limited control," Alderson says. On the other hand, ImageFX provides fully animatable control over every function in the program, all available through AReXX.

So what about Adobe AfterEffects, the current king of motion compositing? The two programs are different, and really can't be compared on a one-to-one basis, but ImageFX can provide the same high-quality compositing with motion effects as AfterEffects. Each program excels in one area or another. As mentioned above, many of



An example of the lens flare effect.

ImageFX processes allow more complex user control and more complete automation through AReXX. ImageFX comes complete with a full array of effects; many of these must be purchased separately as plug-ins for Photoshop and AfterEffects.

One area where AfterEffects definitely tops ImageFX in ease of use is in its time line interface. Numerous pieces of art and video can be dropped in a NLE-style time line, with effects posi-

tioned and applied interactively, and the final output previewed and then rendered. AutoFX and IMP, on the other hand, work on lists of files. A time line interface wouldn't be hard to implement in ImageFX: in fact, the now-defunct MultiLayer program from Prime Software gave older versions of ImageFX just such an interface. (Any programmers out there listening?) But because most users of ImageFX are using to to apply processing effects to video streams, the current ASL list requester would probably be the more heavily used interface, anyway. Another strong feature of AfterEffects is motion-controlled bezier masks which are not available in ImageFX.

On the other hand, the ImageFX bluescreen processor, CineMatte, far exceeds the basic bluescreen compositor in AfterEffects. AfterEffects users (who have already spent \$1,995 on the basic program) must purchase an additional \$2,000 Professional Production Pack or the UltiMatte plug-in, also \$2,000, to match the ImageFX bluescreening. And remember, we're comparing a single program which lists for \$369.95 with a group of programs and extra-cost plug-ins that can easily top six grand! I'm cheap (read cost-effective/profitable). I'll stick with ImageFX!

All in all, ImageFX 2.6 receives four stars from this reviewer. It is now a necessity for anyone working in Amiga-based digital video. If you don't have it, get it. The list price is \$369.95, although the program typically retails for under \$250 at Amiga dealers. If you have an older version, upgrade it: the upgrade is \$34.95 direct from Nova Design. Though long-term ADPro users will take some time getting used to the interface, this program offers power unavailable in any other Amiga image processing program.

VTU

John Jackman is Director of Video Ministries for the Moravian Church. He has been involved in video production since the mid-70's, and computer graphics for over a decade. His work has appeared on cable systems around the country, and on ABC-TV. He also serves as pastor of Battle Hill Moravian Church in Union, NJ.

EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Very Useful
Circle 057

Useful
Circle 058

Not Useful
Circle 059

Toaster 2.0 And 3.1

Always Viable Video Processing Tools

by Stuart Sweetow

I have to admit, I have yet to purchase the Toaster 4.0 or 4.1 upgrade. I don't own a Flyer, and the price tag for the upgrade has encouraged me to stretch the capabilities of Toaster 3.1. Even before upgrading to Toaster 3.1, I was using 2.0 with *excellent* results, knocking the socks off the competition while dazzling our customers. And with the prices of used Amigas and Toasters going down, it's a great time to get into video production. By using the maximum tools available in Toaster 2.0 and 3.1 you can be successful even in very competitive video markets.

I operate a production/post-production facility in Oakland, Calif., catering mostly to corporations and community organizations. It always helps to bring prospective clients to our studio to demonstrate the Toaster's effects. We show them how easy it is to **create** graphic pages and titles with the ToasterCG and **Framestore**, and they see that a potentially boring tape can be resurrected with the Toaster. That usually closes the sale.

In addition to video production for organizations, we also rent our post-production facility to other video producers. A big draw for them is the Toaster with its easy-to-use ToasterCG and plethora of switcher effects. No one really cares or even knows about the different versions of the Toaster. It's the skills of the person running the machine rather than the version of the software that really matters. And we have been fortunate to have Amiga expert Jerry Gainor running ours. He makes it sing!

ToasterCG: Our Killer App

We usually use Toaster 3.1 (and 2.0) for the character generator. Even with the limited font selection of 2.0, you can still create some dazzling pages. For so many clients in marketing and training, text is still the way to go, and ToasterCG adds color, grace and style. Whether it is keyed in or with its own background, our clients love to see their text come alive.

Jerry frequently will create a Framestore with the client's logo in a portion of the screen and use ToasterCG to fill the balance of the screen. Adding boxes, bullets, colors and backgrounds excites corporate clients used to black ink on white paper.

We also use the Toaster to put clients' slides and overhead transparencies on video. We charge them a little more for these graphics than we do for the whole editing suite with an operator. Since our rates are about what a graphic designer charges, clients are willing to pay for this extra service. With one client, we billed nearly 80 hours of ToasterCG work for a series of training videotapes we produced. While the headlines and bullets were in color, we kept most of the text white on gray, and they were excited with how readable it was! They also loved seeing their colorful logo in the corner of each screen.

Framestore Textures And Backgrounds

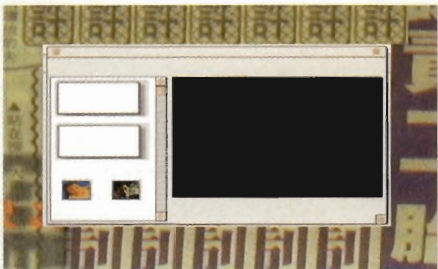
While some corporate clients are happy with gray backgrounds, we love to use colorful textures to enhance the ToasterCG pages we produce. Certainly



By combining ToasterPaint and third-party programs like Composite Studio or Montage, network caliber graphics are easily achieved.

you can buy programs such as Texture City, Screen-Maker and Texture Heaven to use as backgrounds for ToasterCG and other graphics, but the Toaster's Framestores let you create your own backgrounds.

Here's a trick: Take your video camera and tripod to the local home center store and get some shots of that plastic imitation marble, wood grain, granite and other material. Keep your camera locked down and try some close-ups, out-of-focus shots and even perspective shots. You might want to buy a little something as a token gesture before leaving with your "stolen" backgrounds. Then play back your tape into the Toaster and capture frames with the Framestore. Name each frame, and you can later call them up and even change colors using Toaster Paint.



A simulated World Wide Web home page ready for live video delivery.

ToasterPaint Makes Anyone an Artist

I have to admit that I bought the Toaster mainly for the switcher effects and the ToasterCG. It literally took about two years before I tried out ToasterPaint and wow! You're an instant artist even if you can't draw a straight line! You can create your own background patterns, geometric shapes and photo montages, make lines and boxes to enhance your ToasterCG pages, colorize black and white photos and even add false colors to photo realistic scenes. TPaint coupled with a helper application like Composite Studio also yields 3D beveled frames and patterns.

This combo helped us create a simulated Web page of the future for a video we made promoting the City of Oakland. Jerry captured and shrunk video stills as Framestores,

created beveled frames with Composite Studio and used TPaint to make "buttons" for users to select to see more about different attractions in our fair city. Then Jerry added ToasterCG using a font similar to the one the city uses, and it really looked like a Web page.

Using TPaint, Jerry then created a TV screen-shaped, black window with a nice beveled border to display full-motion video using the Luminance Keyer.

TPaint also has Texture Mapping using the TxMap mode, which can take any image and turn it into a truly warped version. Another little known feature is the print function. Resize your image with TxMap and you can print out a complete storyboard of your production in full living color.

Add Life To The Talking Head

In a stop smoking campaign tape we created targeting Native Americans, we illustrated a story using symbolic pictures. With Luminance Keying in mind, we shot a scene of a Native American elder speaking against a black wall. Later we took some shots of a colorful mural depicting Native American stories. Using the luminance keyer in post production, we layered the elder over the mural shots and because we had several close-ups of the mural, we were able to overlap multiple images into this background.

When shooting a scene for luminance keying it is important to make sure your talent doesn't wear *any* black and that the talent is evenly lit. Otherwise the black areas of the talent will reveal the background graphics. When the mural shots were taken, we kept the camera locked down on the tripod, allowing for full-frame stills to be loaded into the Framestore. If the camera was in motion we would have had to settle for a single field half the resolution of a frame.

You can also use the luminance keyer for flying in "keyed" text or graphics. The ToasterCG program is limited to fading in and fading out keyed text, but the luminance keyer lets you use many of the

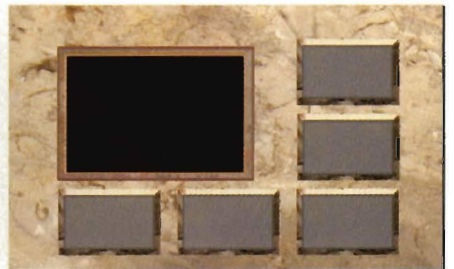
switcher effects to animate any of those keyed graphics.

Virtual A/B-Roll in our Modest Suite

One of the great things about Toaster 2.0 and 3.1 is the Framestore. Your choices include storing a single field, a full frame, or a composite of four frames. When the Toaster freezes this composite it automatically finds the sharpest elements of each of the four frames, and you get a gloriously sharp and steady Framestore.

Remember to lock down your camera when shooting video for later Framestores, otherwise, if you attempt a full frame freeze, you get an image that jumps from field to field. That's when you have to choose a single field store and settle for the lower resolution.

We frequently use the utility to



A quick kiosk menu templet was created in ToasterPaint 2.0

create A/X-rolls. We refer to this as our "virtual A/B-roll edit suite" or the "poor man's dissolve." During editing we freeze the last frame of a scene and store it into DF1 or DF2. Then we dissolve one of these Framestores into the beginning of the next scene. The result is a dissolve and most of the time viewers don't know that half the dissolve came from a frozen source.

ChromaFX

This is another Toaster utility that took me a long time to try. Four of the Toaster switcher effects can be programmed for ChromaFX. When selected, your scene can take on a metallic hue, look like it's on fire or produce a nuclear holocaust. Choose from 100 effects and they can be pro-

Toaster 2.0 continued on page 63

Just Say No to ADO!

How To Be A Stunt Pilot

by Stan Shumlick

With the advent of non-linear video editing, the ability to engineer your productions has never been easier and more accessible. Whether you use the beloved NewTek Video Toaster Flyer or another system, a whole new world has opened up for the ambitious. The ability to manipulate images with a non-linear editing system has never been easier. With a little ingenuity, you can create some truly spectacular effects that will amaze and impress your friends, and most importantly, your clients. There are plenty of add-on packages available that create some outstanding special effects, but, did you know



that one of the most powerful image manipulation tools out there is located right there in the interface of your Flyer editing system? That's right, your Flyer came with LightWave 3D! You can use LightWave to easily create some really spectacular digital video effects and with a bit of planning you can create effects that rival those made with an expensive on-line editing bay. I'll try to show you how to achieve these kind of effects for yourself.

PreFlight

This tutorial assumes that you have at least read the manual about LightWave and Modeler and have navigated the interface at least once. First, boot up your system and enter LightWave's Modeler. The task at hand is a fairly easy one: create a canvas that we will use to map our video images on. You need to create a box that has a ratio of 4:3 for width and height. Select the box tool from the Objects/Create menu and drag out a two-dimensional box in the Face view. You want it to end up as a box with a

ratio of width to height that has the same shape as your television screen or 4:3. Use the grid in the background of Modeler's interface and drag out your box in the X axis so that it covers four grid squares and then drag it in the Y axis so that it covers three of the same grid squares. Hit Return to create the box. (Note the size of the box is not really important since you can change the size at anytime in Layout, you can even animate it changing size!)

The default settings for the grid size will work fine for what we are going to do with the box. You should end up with a box that is 1.5 meters tall and 2.0 meters wide. Use the Center macro to center your box in the view. This will also center the axis of the box allowing you to rotate it in your animation without unpredictable results. Now we want to name the surface of our box. Select Surfaces from the Polygon menu and name the surface of the box VideoClip1. Save your object with a silly name that you can easily remember: I used VidCanvas1.lwo. (Note: you can create many of these Video Canvases by simply copying your original box to another layer and changing the surface name to something different like VideoClip2 and saving it out as VidCanvas2.lwo, etc.)

Next, you want to exit Modeler and enter Layout, where we are going to set up a simple trajectory-type transition that is a common use of an ADO (or any other DVE box). Note that for this tutorial you want to turn the Auto Key functions off from the Options menu in Layout. First, go to the Scene Panel and enter a value of 60 for the end frame number. Next, Load your VidCanvas object into Layout. Switch to the Camera view, as this is easier to manipulate the object for the desired effect. Select Object from the Edit side menu and Move the object in the Z axis only. Bring the VidCanvas object closer to the camera to X= 0, Y= 0, Z= -1.52 so that the 4:3 square fills the entire screen and the edges of the object meet the edges of the view in Layout. This is the end of the transition. Create a key frame at 60 for the object as this will complete the effect in 2 seconds when finally rendered. (Note that you always want to end with an even amount of frames while working with LightWave in the Flyer. You can also add more frames to the beginning and/or end of the animation to give some leader to play with in the sequencer.)

Video Canvas in Flight

Next, position the VideoCanvas at X= 0, Y= 0, Z= 3.3. Create a key frame for the object here at frame 40. Click the next key frame at the bottom of the page to go to Frame 40, and select the Spline controls for this key frame. Enter a value of 1 in the field for Bias. This will cause our

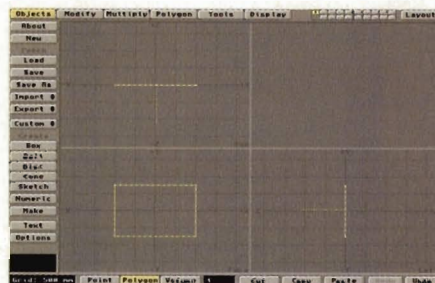
Next move the VidCanvas object to X= 7.3, Y= 5.4, Z= 11 and create a key frame at Frame 0. This positions our canvas out of view of LightWave's camera. (Note: You can add more complex motion by adjusting the Heading, Pitch or Bank of the object to achieve flips, tumbles and spins.)

Navigation Is Key

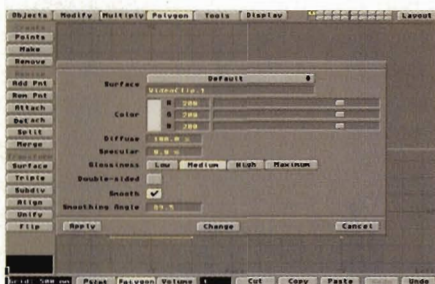
But first, we will need some images to map onto our object and we will need a clip or image in the background for our VidCanvas object(s) to fly over. You should plan in advance which clips or images you will be using for this effect, because you need to know the last frames of your exiting clip and the beginning frames of the entering clip, as we proceed to the next step.

Allow two seconds of time at the end of the exit clip and two seconds at the beginning of the entering clip. This is the overlap of the video that will be playing during the transition. You must leave enough time to complete the transition or you will definitely be disappointed with the end result. Go to the Images panel in Layout and select Load Flyer Clip. Use the requester to navigate to the location of the clip on your Flyer drives and select the name of the clip that you want to use as the exiting clip. You will notice that the name of the clip appears in the Current Image pull-down with the word "clip" in parenthesis after the name.

are controls to select the starting and ending frames of the clip. You want to set the starting frame to the next frame number *after* the end of the *unaffected* video and make sure that you have



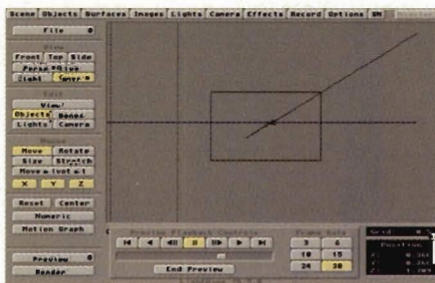
Using the Center macro will center the object and its pivot point for predictable results when animating.



After centering, select the polygon, then go to the Polygon menu to assign it a surface name.



By adjusting the Spline controls of selected Key Frames, you can fine tune the object's motion.



Use Wireframe or Bounding Box previews to check progress in your animation.

for the second clip.

It sounds confusing, but it's actually simple. The unaffected video is the video located between the in-and out-point sliders of the Flyer clips as they appear in the Quick Tune or Fine Tune control requesters. It helps to preview these elements in the Sequencer first and write down the numbers so you don't have to work from memory. Now that you loaded the images that you plan to use, you need to assign these images. Go to the Effects panel at the top of the Layout interface. Select the Compositing tab and under Background Image you want to select the name of the Flyer Clip that will be the exiting clip. Hit Continue. Go to the Surfaces panel and Select in the Current Surface panel the name VideoClip.1 (or whatever you have named the surface of the VidCanvas object). Find the button labeled (T) on the same line as the Surface Color button. Select the (T) to enter the Surface Texture panel. Select Planar Image Map under the Texture type pull-down (this is the default setting). Leave the Texture Opacity setting at 100 percent (Version 5.0 users). Under the Texture image pull-down select the name of the entering Flyer clip. Make sure that the Texture Axis is set to Z and select Auto Sizing. Hit OK on the requester that pops up. You don't really need the Texture anti-aliasing feature located at the bottom of the Surfaces Panel, but you may elect to leave it on for really smooth images, but be aware that it will add to your rendering time.

The effect is now ready to be rendered. Go to the Camera Panel and select Medium Resolution and D2 (NTSC) under the Basic Resolution and Pixel Aspect resolution pull-downs. Select Low Anti-aliasing and change the Adaptive Sampling threshold to 20 instead of the default value of 8. We don't really need as much anti-aliasing of the edges of the object as you might with objects that have more details—after all we are only really rendering a rectangle.

The next step is optional, but I highly recommend that you use it to render this type of scene—Field Rendering. This increases the rendering time per frame but will produce the smoothest motion and really make the effect look sharp. I also recom-

mend that you enable the experimental feature of field image rendering. To do this, close the Camera Panel and use the key combination of Control, Shift and F1. A requester will say Experimental Features enabled. Then Go to the Images Panel and for each clip that you have loaded (select them from the Current Image pull down) use the Control, Shift, F2 key combination to activate Field Rendering for

created clip to their extremes and butt up the Exit clips out-point to the beginning of our rendered transition clip. But the in-point of our Enter clip to backside of the newly created clip. This is where the notes that you took earlier will come in handy as you set up the cuts to accommodate the newly created transition.

You may have to tweak the out-point of the exit clip and the in-point

ed. I continue to edit the project and use the supplied effect to audition the transition and then I will go back and set-up the cleaner rendered effect. Yes, this technique does add to my production time, but the clean professional results are worth it in both mine and my clientele's opinions.

VTU

Stan has realized that the only thing that has changed for him in the process of getting older is that his toys have gotten more expensive. He still yearns for his sandbox and pail, but they pale in comparison to the fun he has with his Flyer system. He can be found on the VTU training tour across America and at Stans@socal.com.



Select the location of your Flyer clips from this requester,



Select the exiting clip as the Background Image for the scene.



Select the entering clip as the Texture Image in the Z axis and hit Automatic Sizing.



Set the Resolution to Video (Medium resolution) and turn Field Rendering on in the Camera Panel.

each of the loaded images. Hit continue to exit the Images panel. Now to save the effect you will need to go to the Record Panel and select Save Animation. Enter the name and Flyer drive that you wish to use to save the rendered clip to in the pop-up requester that appears. Next, under the Animation Type pull down select Flyer Clip, provided that you have previously loaded the ClipSaver.p plug-in. Hit continue to return to Layout's interface and select Render from the bottom left of the screen and select Automatic and OK, and you are off and rendering. (Note: see sidebar to see how I actually render my scenes.)

Being Smooth

After rendering is completed, the only thing left to do is insert the newly created transition between the two original clips that you used to create the animation. Simply set the in- and out-point sliders on the newly

of the entering clip on the original clip two frames each, so you don't end up with an overlap of the animated sequence. It will look like a stutter or jump cut if you have an overlap. You will also want to extend the original audio of both clips and set up a fade-out for the Exit clip and a fade-in for the Entering clip so that the transition is smooth to both the eyes and the ears. The actual percentage of how much to fade-in or out will depend on the timing and position to the elements that you have created, not to mention the creative flair that you want to add to your production. I even add sound effects to my transitions to punch up their effect on the audience.

I also use this technique to duplicate some of the supplied trajectory effects especially when the project requires a speed setting not available from the controls requester or the supplied effect looks blocky and pixilated.

HOW TO RENDER YOUR EFFECTS

I render these effects and save them as RGB or IFF images from the record menu to a regular Amiga DOS HD partition. Why, you ask? Simple, by saving as individual IFF images I have the option of adding more layers to my animations. I can use Toaster Paint, Image F/X, Alpha Paint, ADPro or any other image processing or paint program to modify my imagery further. I then use the Editor ARexx script called IFF2Clip.rexx to compile my individual frames into a Flyer clip. This usually takes about 4 seconds per frame on my stock A4000 to compile into a clip.

I like this method as it leaves me with the entire directory of rendered images to play with and add more interesting effects to. For example, I will render a sequence normally, convert it to a clip. Then modify the original frames by adding the Line Art or Emboss Filter from ADPro or the Film Grain filter from Image FX to the entire batch of frames and then convert the newly modified frames into a clip with my favorite ARexx script. I'll then take the clean version and dissolve into the modified version for some really neat effects using the real-time wipes and dissolves included with the Flyer software. A little pre-planning goes a long way creatively speaking.

EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Very Useful

Circle 069

Useful

Circle 070

Not Useful

Circle 071

heads after every thirty hours of read/write activity, or once per month. 8) Always use a good quality head cleaner and do not reuse it, you will only manage to place back on the heads all the crud you previously removed. 9) Use the HEMC tape after every five regular cleanings to eliminate polymer buildup if you are running in a harsh environment.

The rest is easy. When you want to back up a project first load it into the projects window. Then simply hit the save button. You now hit backup instead of OK and give it a new name. I usually add a number at the end of the original project name, it's the same only different. The SCSI controller will look for your tape drive will locate it and will ask you to insert a tape. Don't forget that a tape drive is much slower than a hard drive so be patient. The Flyer will take over from that point on by notifying you when the task is completed. I usually let the Flyer do project backups at night. There is no need to

watch the grass grow.

You can also save your raw video or audio clips directly, without the effects or CG pages which are bound to be in a project. These are already in your Flyer software so why duplicate the effort. All you have to do is select all the clips involved, drag them into the projects window and give them a project name. When you restore your video and audio clips make sure you put them in the same drive that they came from. I usually give them the name of the project and the drive they originally came from i.e. "Boat FA:0" for the first video drive, or "Boat FB:0" for the second video drive, or "Cool tunes FC:0" for the audio drive. This will allow you to load your original project and play it back as if the drives were never altered or backed up. This method has the advantage of quicker backups and less space required per tape. The disadvantage is that if you inadvertently loose or delete your project icon you have lost your project. You will have to recreate it all over again. If you are like me and value your work, do both. It takes

more time and space to back up but the safety is well worth the effort. I know what you're thinking, there he goes again with the belt and suspenders thing. So be it.

These have been my experiences from my back-up blues. I hope I have helped some of you understand the intricacies of not only setting up but successfully backing up projects from the Flyer to a tape drive. If you have your own suggestions you can share them with me at gparamit@colsa.com.

Be well!

VTU

George C. Paramithas is an electrical engineer by day and a videographer when his time allows. He founded "Paramedia Productions", a company that produces educational and corporate videos. He is located in Huntsville, Alabama and can be reached by telephone at 205-772-9428.

EDITORIAL EVALUATION

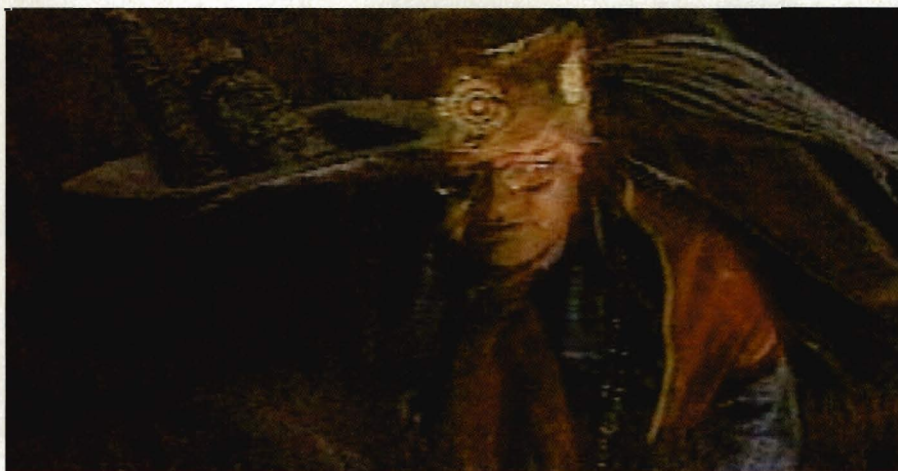
Circle number on Reader Service Card

I found this article:

Very Useful
Circle 045

Useful
Circle 046

Not Useful
Circle 047



From a video on cancer and the Native American. Compositing was achieved using the Toaster's Luma keyer.

grammed to display the effect with motion. You can also use ChromaFX to rescue bad footage through poor white balance or recreate a particular mood by warming it up or giving it that cool industrial look. ChromaFX is a must for music videos.

LightWave 3D Means Dynamite Animation

Another overlooked utility of

Toaster 2.0 and 3.1 is LightWave 3D. With LightWave you can create images using the wireframe technique, rotate them on their X, Y and Z axis, add light sources and finally render them. After you see the image in the wireframe format, you can make changes if needed and then add a textured and painted skin. LightWave makes animation easy. Without any additional equipment

you can create 3D logos or title pages complete with shadows, reflections and even refractive "glass like" warping.

Toaster 4.0 and the Flyer 4.1 have some great features like rotating text for the ToasterCG, project window Framestores sequencing and digital NLE. If you buy a Flyer or plan on it in the future, 4.1 is the upgrade you'll need. But if you are still doing traditional linear video editing, Toaster 2.0 and 3.1 are still production tools that are guaranteed to impress your clients and give you the opportunity to be creative. Certainly your viewers will be so tickled they won't know—or even care—what version of the Toaster you used.

VTU

Stuart Sweetow owns Audio Visual Consultants, a video production and post-production facility in Oakland, Calif. Contact him at (510) 839-2020.

EDITORIAL EVALUATION

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Useful
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Not Useful
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Panasonic

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- PV-S4690.....679.95

JVC

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- HR-S7200.....574.95
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New! AG-456

S-VHS Camcorder

- VTC Recording
- 12x1 Zoom
- Hi-Fi Stereo
- S-VHS
- Super Low Light Shooting
- Variable Digital Functions

AG-EZ1

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- 500 Lines of Resolution
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- 1.5" Color Viewfinder
- 270,000 Pixel CCD
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AG-1980

S-VHS Editing VCR

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- Separate Audio In/Out • Jog Shuttle
- 3-D Digital Y/C Separation.

AG-DS540/AG-DS550

S-VHS Digital Editing System



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GY-X2BU

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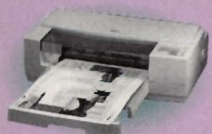
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- 14 inch Monitor
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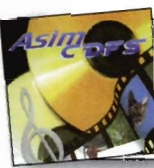


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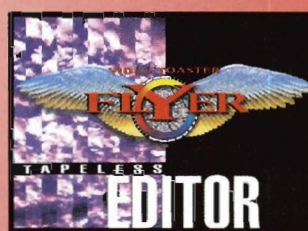
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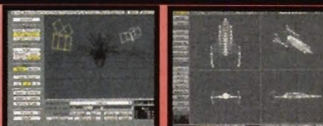
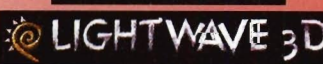
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- Now includes manual zoom control
- Laminated amorphous heads assure exceptional picture quality, high resolution, superb color reproduction, and high signal-to-noise ratio
- 12.1 power zoom lens with continuously variable speed zoom
- Hi-Fi stereo and linear track for recording. Also has "Audio Out" select switch for Hi-Fi/Normal/Mix combinations
- High performance stereo zoom microphone features three different settings: Wide, Telephoto or automatic zoom.
- Built-in VTC (Vertical Interval Time Code) time code generator gives absolute address to each frame of video for frame accurate editing (with specific edit systems)



AG-EZ1 3-CCD Digital Videocassette Camcorder

Heralding a new era in video, the AG-EZ1 is the world's first camcorder to incorporate 6mm DVC (Digital Video Cassette) technology. The biggest leap in video since S-VHS and Hi8 were introduced six years ago, DVC is a revolutionary video format that delivers such high quality — it literally rivals broadcast cameras. Utilizing DVC the AG-EZ1 records an extraordinary 500 lines of horizontal resolution—nearly 25 percent more than S-VHS, Hi8 or Laserdisc, and 50 percent better than a live television broadcast. And because it's digital, picture quality is not only sharper but unbelievably clean. Audio is also recorded digitally, resulting in quality equal to that of CDs. In addition to it's digital capabilities, the AG-EZ1 also features a 3-CCD pickup system, 180,000 pixel color viewfinder, 10.1 power and 20:1 digital zoom, full automatic and manual controls and a large LCD panel.



- Three CCDs with 270,000 pixels each are horizontally staggered for optimum resolution.
- Digital recording system delivers incredible 500 lines of horizontal resolution and virtually no noise. The signal-to-noise ratio is 54dB, an improvement of 6-9 dB over conventional analog systems. This actually represents a S/N ratio 2-3 times better than existing camcorders.
- Audio is also recorded digitally using PCM (Pulse Code Modulation) for quality that rivals CDs. You can choose between two-channel 16-bit recording or two sets of 12-bit stereo, with the second set reserved for uses such as narration.
- Includes a huge 1.5" 180,000 pixel color viewfinder. The viewfinder also tilts 120 degrees vertically for shooting subjects from high or low angles, & its professional size means you don't have to press it against your eye to see the picture.
- Variable high speed shutter goes from 1/60—1/8000 of a second in 14 increments.
- Built-in Digital Electronic Image Stabilizer (DEIS) compensates for jittery video and is particularly effective when the digital zoom is employed.
- Equipped with 10.1 power and 20:1 digital zoom lens. Both zooms are adjustable in four speeds (3.5 seconds—15 seconds) based on how hard or soft the zoom toggle is pressed. To set up a shot quickly, a Turbo Zoom function moves from tight to wide angle, or vice versa, in under two seconds. For extreme close-ups the lens can focus up to 1/4 inch from the subject.
- Digital Photo-Shot let's you record a still-frame for about six seconds, while audio continues as normal. This feature is great for creating video photo albums or insurance tapes, as 290 still pictures can be recorded on a single 30-minute tape and 580 shots on a 60-minute tape. Using the TopScan feature any shot can be found easily.
- Large LCD panel on the side of the camera displays camcorder status and operating modes.

AG-DP800H **SUPERCAM** S-VHS 3-CCD Digital Signal Processing Camcorder



- Three high-density 380,000 pixel CCDs with half-pitch pixel offset achieves over 750 lines of horizontal resolution, a S/N ratio of 60dB and remarkable sensitivity of 18 at 2000 lux. Additionally the Frame Interline Transfer (FIT) CCDs minimize vertical smear, so you maintain impressive picture quality even in very bright illumination.
- Digital Signal Processing circuitry provides four valuable benefits
 - 1) Consistently reliable up-to-spec performance.
 - 2) Fine adjustment of a wide range of parameters.
 - 3) Memory storage and instant recall of specific settings.
 - 4) More flexible and higher quality image processing, as well as easier maintenance.
- Some of the DSP circuits and their functions:
 - CHROMA DETAIL - This function compensates for poor resolution in the high chroma areas of the picture.
 - DARK DETAIL - Determines optimum degree of contour enhancement in dark areas to deliver crisp, natural-looking images
 - HIGHLIGHT COMPRESSION - Expands the dynamic range of the highlighted areas and prevents halation. The highlight compression circuit allows a wide dynamic range producing detailed images even against bright backlight or daylight.
 - FLARE CORRECTION CIRCUIT - Compensates for steady black caused by light or by a subject's movements.
- Six Scene File modes. There are two user modes for custom digital parameter settings including Horizontal Detail, Vertical Detail, Chroma and Dark Detail, and Color Correction. The four preset modes are normal, fluorescent, special and sparkling.
- In addition to regular AGC (Automatic Gain Control), Supercam has a Super High Gain mode. At F1.4 this enables shooting under illumination as low as 2 lux while retaining detail and color balance.
- Synchro Scan function allows flicker-free shooting of computer monitors. Electronic shutter increments 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.
- Has a 26-pin connector on the back that outputs a composite or component video signal. This enables convenient backup recordings using an additional VCR equipped with a 26 or 14-pin connector
- Phantom power can be supplied to an optional microphone. Power can be switched off to prevent battery drain when not in use.

DP-800H "LS" Package:

- DP-800H Supercam 3-CCD camera head with 1.5" electronic viewfinder and Anton Bauer Gold Mount battery
- Fujinon S14x7.5 BRM 14:1 servo zoom lens
- CC-8800 soft carrying case
- WV-Q7700 tripod mounting plate

DP-800H "XL" Package:

- DP-800H Supercam 3-CCD camera head with 1.5" electronic viewfinder and Anton Bauer Gold Mount battery
- Fujinon S14x7.5 BRM 14:1 servo zoom lens
- CC-8800 Thermodyne hard shell carrying case
- WV-Q7700 tripod mounting plate
- Two Anton Bauer Digital Trimpack 14 batteries
- Anton Bauer 2-position quick charger

JVC GR-DV1 Digital Video Camera

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

COMPACT AND LIGHTWEIGHT DESIGN

- Weighs only 1.0 lb. (450g) and measures 1 1/4" x 5 1/4" x 3 3/4" (43 x 148 x 88mm).
- Fits easily into pocket or purse.
- Handy upright design allows easy operation.

HIGH PICTURE AND SOUND QUALITY

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

SPECIAL EFFECTS (Shooting)

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

SPECIAL EFFECTS (Playback)

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

EDITING FUNCTIONS

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

USER-FRIENDLY OPERATION

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



JVC PROFESSIONAL

GY-X3 3-CCD S-VHS Camcorder



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

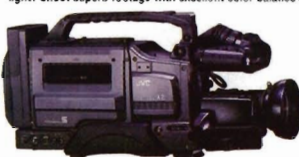
Features:

- Non-detachable 14:1 professional servo zoom lens has a motorized iris that smoothly adjusts to varying lighting conditions. The zoom and iris can be manually operated for additional control.
- In low-light conditions, you can choose from a variety of gain settings up to +24 dB with minimal increase in noise. In addition a Maximum Gain Mode allows you shooting in near darkness. Achieves an incredible 100% video level in light as low as 4 lux
- Automatic Level Control lets you pan from a brightly lit to a dimly lit area in one take, without adjusting gain settings. The GY-X3 automatically detects and applies the correct amount of gain so you can concentrate on getting the shot.
- Full Time Auto White function analyzes the light sources' color temperature and continuously corrects changes. Follow a bride from outdoor sunlight through a fluorescent lit hallway into a reception room and never have to adjust the white balance. Also indispensable when shooting outdoor sunset weddings.

- Extended Electronic Iris provides a continuously variable shutter without using ND filters. Allows smooth continuous point and shoot work from dark hallways to bright outdoor settings.
- 1.5" high resolution viewfinder displays tape remaining, date and time and battery condition. Key parameters like audio levels can also be superimposed over the picture if desired.
- Two-channel Hi-Fi audio recording (with separate XLR balanced inputs) plus a linear audio track
- Variable Scan Mode for flicker-free shooting of computer CRTs
- Designed to be as comfortable as it is affordable. Weighing only 12.8 lbs. including lens and viewfinder, the camera is perfectly balanced for exceptional comfort. All controls, including audio level adjustments are at your fingertips.
- Built-in Control Track (CTL) time code generator writes absolute frame address data onto the control track of the tape. When the tape is played back in the JVC Edit-Desk system (see below), the time code data is accessed, thus ensuring accurate logging and editing. In addition, the GY-X3 logs each new recorded scene in the "user bit" portion of the time code. This Scene Finder function lets you quickly locate the next or previous scene with the Edit-Desk system. Scene numbers are also displayed in the LCD display of the camera.

GY-X2B 3-CCD S-VHS Camcorder

- Newly designed three 1/2" CCD image sensors deliver 750 lines of horizontal resolution and superb signal-to-noise ratio of 62dB
- New Micro-lens technology provides exceptional sensitivity of F8.0 at 2000 lux and LOLUX mode lets you shoot with almost no light! Shoot superb footage with excellent color balance at a mere 1.5 lux



- Variable Scan allows flicker-free shooting of a computer screen
- Quick Record Mode - When turned on the camera is set to the auto iris even if lens is set at manual. Also activated is (ALC) Automatic Level Control and EEI Extended Electronic Iris which provides both variable gain and variable shutter. Now you can shoot continuously from dark room to bright outdoors without having to adjust gain, iris or ND filter.
- Full Time Auto White circuit lets you move from incandescent to fluorescent to outdoor lighting without changing white balance or the filter wheel.
- Dual output system allows camera output to be connected directly to an external recorder

Quick-Draw Professional FOR CAMCORDERS OR STAND ALONE CAMERAS



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



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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 cut-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 editing 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 video 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 the 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.
- RM-250 also offers program editing capability, which allows automatic sequential editing of up to 20 pre-assigned scenes.

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

SVP-5600 and SVO-5800 features:

- S-VHS with high quality signal processing techniques like DNR, Digital Field DDC and Chroma Process improvement, to 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. The field memory also includes a Digital Field DDC (Dropout Compensator), which replaces signal dropout with information from the previous field.
- Chroma Process Improvement circuitry greatly improves the chroma bandwidth, thus enabling sharper and clearer color picture reproduction.



ADVANCED EDITING FUNCTIONS

- Both employ a sophisticated servo system, an improved quick response mechanism and built-in LTC/VTC time code capability. This makes them ideal for animation and computer graphic recording, where a frame-by-frame editing function is indispensable.
- Equipped with RS-422 9-pin serial interface.
- When connected to an RS-422 equipped edit controller, the SVO-5800 performs assemble and insert functions and also provided audio split editing capability of normal audio tracks 1 and 2. In the insert mode, video, audio and time code can be inserted independently, or in any combination.

USER FRIENDLY OPERATION

- Built-in character generator superimposes time code data, control track, menu setup and VCR function status 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, which also accesses field freeze function in the still mode and allows on/off control of chroma and luminance noise reducer.

FOUR CHANNEL AUDIO SYSTEM

- Two Hi-Fi tracks provide a wide frequency response from 20Hz to 20kHz and a superb dynamic range of 90dB. Two linear tracks incorporate Dolby B noise reduction for high quality sound reproduction. XLR connectors are used for the inputs and outputs for all four channels.

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.

DFS-300 DME Switcher

The DFS-300 features basic transitions such as wipes and mixes, as well as complex DMEs, or digital multi-effects. It allows you to insert sophisticated patterns like picture-in-picture, mosaic, mirror, slide and matrix wipe designs. With the optional BKDF-301 3D Effects board installed, you can perform three dimensional rotations, page turns, image twists, multi-splits and 3D spherical effects — in real time. No sitting around waiting for loading or rendering. With its digital multi-effects, numerous keying options, 3D transitions and user-friendliness, the DFS-300 is in a league of its own.



POWERFUL MULTIPLE EFFECTS

Up to 500 Effects

- 330 factory preset 2D effects and wipes stored for immediate use. They include wipe, compression, rotation, slide, split, mirror, stream, etc. as standard.
- With the optional BKDF-301 3D board installed, 130 additional preset effects such as twist, page turn, sphere, etc. can be memorized and recalled whenever required.

Powerful User Program

- Provides powerful, yet easy to operate effects programming to build your own effects. Cut, mix, wipe, slide, rotation and many other 2D effects and optional 3D linear and digital effects can be created with the unit's programming function. Up to 20 created effects can be stored for instant recall and that is doubled when the 3D board is installed.

HIGH PERFORMANCE SWITCHER

Multi-Format Inputs/Outputs

Three primary inputs accept composite, S-video and component signals. A fourth input accepts either component, RGB/Sync or a computer generated RGB signal. Color correction can be applied to any input. Two program outputs provide composite, S-video and component signals.

Luminance Keyer

- Foreground sources such as titles, captions or figures can be self-keyed over a background source and rotated, compressed and positioned optionally in 3D space.

Chroma Keyer

- Superimpose video from a foreground source onto a background source.
- Clip and Hue can be controlled for clear and sharp key edges.
- Any preset effect can be applied to the chroma key picture.

Snapshot Function

Stores up to 99 control panel settings in "Snapshot" memory for instant recall. Every parameter such as background color hue, border width, shadow density, etc. can be stored and recalled.

Effects Modification

- To suit individual tastes, allows effects modification for some of the preset effects like mosaic, posterization, solarization, wave, multi-picture, strobe, frosted glass, cinema mode, etc.
- Fine control over various parameters such as size, density and amplitude further enhances effects editing.

Transitions

- 141 of the most frequently used wipes are available from the preset patterns and 13 of them are directly accessed with a press of the keypad.
- Mixes, wipes, as well as digital effects transitions can be performed manually or automatically. Automatic transitions can be varied from 0 to 999 frames in duration for both foreground and background bus transitions and the DSK transitions.

Optional Down Stream Keyer

Optional BKDF-504 DSK (Down Stream Keyer), lets you introduce captions, characters, etc. with clear edge quality, after multi-effects processing.

- DSK key input accepts composite, component or RGB signals.
- Position and type of the DSK are selectable and a box mask is provided to mask unwanted areas of the picture.

Built-in Matte Generator

Three matte generators for backgrounds; can be a solid color or one of 31 different textured patterns, border and effect matte signals. Also instantly selectable color bars, grid pattern and solid black. With the BKDF-504 DSK, you get two more matte generators for DSK matte and DSK border matte.

Other Features

- Four different time modes offer the ability to perform key effects such as luminance key, chroma key, external key or downstream key from a variety of input sources.
- Three black-burst outputs provide synchronization to equipment requiring sync signals. A genlock input allows the DFS-300 to be synchronized to an external timing source.

Panasonic



AG-1300

Industrial 4-Head VHS VCR

- HR (High-Response) mechanism uses the full-loading tape transport system for quicker picture display, fast forward and rewind.
- Enlarged multi-function display gives all information at a glance. Indications for the time, recording or playback mode and other often used functions are easy to confirm from across a room.
- S-VHS quasi playback (SQPB) lets you playback S-VHS tapes (in normal VHS resolution).
- On-screen display (in four languages) provides clear and easy to follow programming instructions.
- Industrial strength VCR, the AG-1300 features a rugged metal cabinet on an aluminum die-cast chassis. Includes full one-year warranty on parts and labor.
- Other features include: built-on head cleaner, automatic repeat, real-time counter, frame advance, high-speed search (27x in SLP mode), 161-channel tuner, one touch recording.

AG-2540

Industrial 4-Head VHS Hi-Fi VCR

Same exact features as the AG-1300 plus—

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



AG-1980

S-VHS Hi-Fi Editing VCR

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



AG-5700

S-VHS Hi-Fi RS-232 Editing VCR

- Has amorphous video heads to yield a higher signal-to-noise ratio.
- Achieves an accuracy of ± 3 frames with optional AG-A570 Edit Controller.
- Built-in RS-232 provides machine control of playback, recording and editing functions from a computer. You can use the power of your computer (with optional software) to assemble hundreds of scenes, create edit decision lists and do complex editing jobs.
- Auto Repeat function continuously replays a tape which can be used for tape's end or when recorded material ends.
- Separate Hi-Fi (Dolby Ch2) audio recording level controls with display. There is also a headphone output with volume control.
- For unattended recording there is a Sensor Recording function. When a video signal is detected the power is automatically switched on and the AG-5700 begins recording.
- For video presentations the AG-5700 is ready to go. Weighs less than 13 lbs., extremely compact with a built-in carrying handle.



AG-DS540/AG-DS550

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

- 3-dimensional digital TBC with a correction range of one field. With the VCRs continuously retaining one field in memory, the data is used for 3-D type processing thereby providing excellent dropout compensation.
- Digital Signal Processing for improved picture quality, and for maintaining uniform picture quality during editing. Digital processing circuits include:
 - Chroma Aperture Compensation (CAC): Eliminates color blurring and expands chroma bandwidth.
 - Digital Noise Reduction (DNR): Processes Y & C signals separately to boost S/N Ratio by minimizing noise during playback.
 - Digital Comb Filter: Advanced 3-dimensional system for total Y/C separation providing reduced color and luminance blurring.
- Employs amorphous video heads that have a higher magnetic coercivity than conventional ferrite heads. Expanded frequency response from the amorphous heads enhances picture quality by minimizing color blurring.
- Built-in LTC/VTC (Longitudinal/Vertical Interval) time code reader/generators for absolute frame accurate editing.
- IQ (Intelligent Queue) mechanism delivers precise, high-speed operation. The dual-loading system achieves high-speed response while protecting tapes and heads. The tape transport mechanism uses five direct drive motors, including two reel drive motors.
- Performs audio split editing which lets you set the edit-in and edit-out points separately from those for video.
- Capstan Control System with large capstan spindle allows high-speed search at 32x normal speed (with color picture).
- 4 channel audio — 2 hi-fi stereo channels with dynamic range of 90dB as well as 2 linear channels with Dolby NR. Each audio channel has its own input (AG-DS50 only) and output with individual channel-level setting capability and use XLR connectors. Provide 16.9-wide aspect compatibility, so they are fully equipped for the next generation of televisions.
- 3 rack units high, they are unbelievably compact for easy space saving installation. 19" rack-mountable with optional AG-M730.



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EQUIPMENT LEASING AVAILABLE

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 more sophisticated editing controllers, plug in the SA-K28U RS-422 board. Other boards include the SA-K28UA 45-pin board for connection to older JVC editing systems, the SA-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 feature on 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 capacitor 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.



BR-D40 Digital Dockable Recorder

BR-D50 Digital Player

BR-D80 Digital Editing Recorder

BR-D85 Digital Editing Recorder with Pre-Read

High Quality Digital Editing Is Here and It's Affordable!

An affordable, broadcast quality digital video recording and editing system, the Digital-S series reproduces images that not only are superior to any analog or digital 4:1 format but rival even the highest priced digital systems. It offers the robustness and reliability of a 1/2-inch format and combines 4:2:2 component processing with very mild compression to achieve and sustain excellent quality through multi-generation dubbing.

The quality of Digital-S applies equally to acquisition and editing, plus it has the flexibility to easily integrate into any digital or analog format—tape or disc. Purchase the entire system or one component at a time, its flexibility lets you use existing equipment.

Digital-S starts with the versatile BR-D40 Dockable Recorder. Designed to produce the highest quality raw footage, the BR-D40 features automatic editing which utilizes a built-in time code reader/generator to ensure perfect, frame-accurate in-camera edits. Time code input and output slave-lock function facilitates editing the tapes from multi-camera or iso-cam shooting. Edit with a choice of two powerful editing recorders—top-of-the-line BR-D85 with pre-read and digital I/O or the economical BR-D80. Completing the line is the BR-D50 Player and the flexible BR-D51 Player with S-VHS playback (Available Oct. 1996). Both players accept the optional SA-D50U digital I/O interface card.

Broadcast Quality Digital Video

- Utilize 4:2:2 digital component processing to add a richness and warmth unobtainable with any lesser system. In addition, only 4:2:2 stands up to the rigors of sophisticated chroma-keying, multi-generational editing, special effects, blue-screen compositing, matting, A/TV up/down conversion, and multiple transversion between compression systems.
- Reproduces finest colored details and subtlest contrasts while minimizing artifacts using extremely mild compression ratio Set to 3:1 with DCT-based intra-frame coding, Digital S yields a data rate of 50 Mbps, plus it pumps out horizontal resolution of 720 pixels or 540 TV lines. S/N ratio is an incredible 55dB.
- Audio is recorded by 2-channel, 16-bit PCM signals with a sampling frequency of 48kHz. The audio is superior to CD and allows frame accurate editing. PCM audio channels can be edited independently.
- Standard analog inputs/outputs provide outstanding performance for most applications. When virtually perfect dubs are required, they use SMPTE 259M interface for digital video and AES/EBU for digital audio. The true digital video standard today, SMPTE 259M permits tape cable runs and is used for direct professional connection to digital switchers, disk-based recorders and digital tape recorders.

Robust 1/2-inch Format

- Achieves its super-high-quality using a robust, 1/2-inch metal particle cassette tape. The cassette housing has a dust-proof structure to increase tape life as well as your images. Tape speed is 57.8 mm/s for a recording time of 104 minutes.
- Digital S features an extra wide track width of 20 microns for improved stability and reliability. One frame consists of 10 tracks with the video area on either side of the audio track.
- Equipped with powerful error correction circuitry that not only replaces data in the unlikely event of a tape dropout but continues to play back a picture even with a clogged head.



Digital Editing

- Digital-S VCRs are equipped with variable slow motion which can be accessed by standard editing commands. Smooth and noiseless, the image quality of slow motion is equal to regular playback and is available within a range of 1/3X.
- Longitudinal tracks include two auxiliary audio (cue) tracks and a control track for tracking purposes. Cue tracks provide easy location of edit points which can be heard at any tape speed.
- Because of its linear control track, Digital-S has a short lock-up time which eliminates long pre-rolls. This feature achieves a stable picture faster, saving precious editing time.
- Auxiliary video (sub-code) area stores two selectable uncompressed lines of video. Suitable for recording closed caption or other information located in the vertical blanking interval.

PRE-READ EDITING (BR-D85 Only)

Previously an exclusive feature of very high-end digital systems, video pre-read enables the recorder to first play back the digital signal on the tape, before recording a new signal in its place. Operable with either digital or analog signals, pre-read lets you perform layering and A/B roll editing with only two VCRs, instead of three.

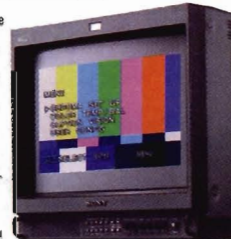
Operational Conveniences

- Comprehensive analog inputs/outputs (composite, S-video and component), video and audio monitor output, RS-422 interface and VITC/LTC time code.
- Jog/shuttle and system timing controls on the front panel. Footage can be searched in color at up to 32X normal speed.
- They have a self diagnostic warning system plus, an RS-232 diagnostic service service port measures digital data performance during playback. There is also a standard hour meter.
- They also feature flying erase head, rack mount capability and built-in head cleaner.

SONY COLOR MONITORS

PVM-1350 13" Presentation Monitor

- Employs a P-22 phosphor fine pitch CRT to deliver stunning horizontal resolution of 450 horizontal lines.
- Beam current feedback circuit 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.
- Factory set to broadcast standard 6500K color temperature.
- On power up, auto degaussing is performed. There is also a manual degauss to demagnetize the screen.
- On-screen menu facilitates adjustment of contrast, brightness, menu operation on the monitor. Menu display is in English, French, German, Spanish or Italian.
- Sub control menu allows fine adjustments to be made on the knob control for contrast, brightness, chroma and phase.



PVM-1351Q 13" Production Monitor

- Has all the features of the PVM-1350 PLUS -
- A multisystem monitor, it accepts NTSC, PAL and NTSC video signals. NTSC 4:3 can also be reproduced.
- Equipped with a SMPTE 259M Serial Digital Interface. With 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.
- Inputs include analog RGB, S-video, component, 2 composite video (BNC) and 4 audio for complete flexibility.
- Aspect ratio is switchable between 4:3 and 16:9 simply by pressing a button.
- Underscan function allows you to view entire image and check the picture edges. Also HV delay to view the blanking area, 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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Powerful Character Generator

- Choose from 35 built-in fonts or download hundreds of PostScript fonts from your computer. It's high-speed RISC processor provides real-time PostScript Level 2 imaging.
- Characters can be rotated at any angle, scaled to any size, stretched horizontally or vertically.
- Styles include variable bold and italic, underline and shadow (drop shadow, variable displacement and opacity). Each character can be adjusted separately.
- Text can be positioned anywhere on the screen or automatically centered, vertically or horizontally.
- Left, right, top, bottom & center justification is provided as well.
- Characters are automatically kerned, using the font's standard kerning information.
- Spacing is highly flexible with variable word and letter spacing and line spacing (leading).

Intuitive User Interface

- Built-in real-time object-based drawing tool and text editor, no external computer or software required. Design can be done ahead of time and displayed later, or can be done on the fly. Display is real time.
- Supplied keyboard and mouse are used with easy on-screen menus to place and modify graphics and text.
- Customizable function keys let you change fonts, colors, and other characters instantly.
- Separable preview output allows you to create and edit titles while another set of titles is being displayed.

Roll, Crawl, Animation, Effects

- Variable speed roll, crawl and push (slide) in all directions.
- Every text object, graphic, and logo can be separately animated. Complex animations include ability to have elements follow paths, bounce, etc.
- Elements can change outline and/or fill color, transparency, position as they move and results are displayed in real time.
- Move individual characters in different directions, make colors change, flash words, make letters and words bounce, spin a letter across the screen.
- Use effects like fades and wipes to transition between titles and video or between two pages of titles.

- Internal linear keyer superimposes characters and graphics on S-video or composite sources.
- Also provides anti-aliased down-stream keying via a separate linear KEY output.

Backgrounds and Graphics

- Titles can be placed on solid color, patterned or graduated backgrounds, or they can be locked to incoming video.
- Lines, squares, rectangles, ovals and circles can be created and placed anywhere on the screen.
- Each graphic object can use a different color, transparency, rotation, size, fill and outline.

Transparency and Colors

- Characters can be made transparent (0-100%) over video. Other characters and graphics with 64 levels of transparency.
- Opaque characters can use over 4,000,000 colors, transparent characters can use over 8,000.
- Different colors can be used for fill and outline (variable width) as well as each letter and graphic.

Imported Logos and Graphics

- Import and display complex graphics created with standard Mac, Windows, Amiga and UNIX-based programs, such as Photoshop, Corel Draw and Adobe Illustrator. Accepts most PostScript or EPS format graphics without modification.
- Imported images can be any size and can be scaled, skewed, and rotated when placed on screen.
- Transparency and anti-aliasing can be defined when graphic is generated.

Expansion Capabilities

PowerScript operates on its own but you can still add peripherals and connect to a computer or network. Two PCMCIA slots allow the addition of non-volatile flash-RAM and Ethernet cards, and an RS-232 serial port allows connection to computers.

Built-in Test Generator

The PowerScript can generate standard video test patterns including color bars, crosshatch, ramp, gray wedge, multi-bars and blackburst. Titles can be placed atop any of the patterns.



Still not convinced, then call us for a free
PowerScript demo tape and see for yourself.



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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 (with 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.
- Outputs can easily be configured to meet specific user and equipment needs.

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 sine wave audio tone output, locked to video
- Outputs can easily be configured to meet specific user and equipment needs.

\$269



CSG-50

Color Bar/Sync/Tone Generator

- Generates full SMPTE color bars, blackburst and composite sync signals.
- Built-in timer can automatically switch video output from color bars to color black after 30 or 60 seconds. Easy and convenient for producing tape leaders and stripping tapes with color bars and black.

- Front panel selection of full-field or SMPTE color bar patterns or 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.

\$349

WE STOCK THE FULL LINE OF HORITA PRODUCTS INCLUDING:

- WG-50** Window Dub Insert
- TG-50** Generator/Insert
- TRG-50** Generator/Insert/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
- H18** (EVO-9800/9850) TC to LTC Translator
- TSQ-50** NTSC Test Signal Generator
- SCT-50** Serial Control Titrer "Industrial" CG, Time-Date Stamp, Time Code Captioning
- SAG-50** Safe Area, Convergence Pattern and Oscilloscope Line Trigger and Generator

NEW! Newtek LIGHTWAVE 3D 5.0

The Ultimate 3D Rendering and Animation System for Broadcast Graphics

A new release of the all-in-one photo-realistic animation system that has been used in seaQuest DSV, Babylon 5, Hercules, Star Trek: The Next Generation and Voyager, LightWave 3D version 5.0 allows you to view solid objects and lighting effects interactively as animation is created through the implementation of OpenGL.

• LightWave 3D 5.0 is also the only product to break the polygon/spline barrier with the introduction of MetaNURBS. MetaNURBS performs real time transformations between polygons and splines, enhancing your ability to create organic 3D objects easily. MetaNURBS is the first tool to effectively utilize strengths of both techniques making it easier than ever to create stunning 3D models.

• Another new modeling feature is MetaBalls, which utilizes spheres to quickly approximate complex shapes. MetaBalls automatically generates a skin based upon that approximation, transforming it into a complex 3D model.

• LightWave 3D 5.0 includes over 100 new features that enhance your ability to create visual effects for television, corporate, entertainment and personal 3D animation.

SANYO

GVR-S950 S-VHS Single Frame Recording VCR

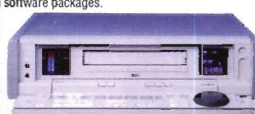
• Built-in single-frame animation controller eliminates the need for separate or computer plug-in animation controllers. Industry-standard protocols, make it compatible with most popular graphic and animation software packages.

• SMPTE Time Code Generator and Reader with Built-in Drop and Non-Drop Frame Read/Write is fully programmable from an external computer and reprogrammable 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.



Limited availability of like new "B-stock"only \$1495.00

GVR-S955 S-VHS Single Frame Recording VCR

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

DIGITAL PROCESSING SYSTEMS INC.

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, Fractal Pro, Imagine, Vista Pro, and Cinema4D.

• Real-time video capture for roto-scoping and other video capture applications is possible when used in combination with a DPS TBC IV card.

PVR-2500 Animation Recorder

The PVR-2500 offers powerful features for awesome animation, morphing and roto-scoping capabilities. With features like 720 x480 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.

• Designed to run under Windows NT 3.5 on computers employing 486 (DX2-66 or higher) Pentium, DEC ALPHA or MIPS processors. Perception software utilizes NT 3.5's native support for multitasking and multiple processors, allowing use with the most powerful computers.

• Perception's exclusive multi-format virtual file system ensures complete integration with your existing Windows NT applications. Any acquired video or computer generated Perception video clips appear simultaneously in many different file formats including: TAGS, SCI, BMP and IFF.

• Also compatible with new NT versions of Lightwave 3D, 3D Studio, TOPAS 5.1 Pro, Softimage and Elastic Reality.

• Video output section utilizes 10-bit 2x oversampled encoding and provides broadcast quality CCIR-601 (720 x480) resolution. It's dynamic range is in excess of D1 scaling so that images are brighter, have more color and greater spatial resolution. Component, composite and S-Video outputs are provided via the included breakout cables.

• Use with any compatible sound card while synchronization of audio and video is maintained by the PVR software. Captured audio is stored on the computer's system hard drive, not on the dedicated drives. This approach provides maximum flexibility for manipulating audio and video during editing.

• Can perform real-time interpolation of 30 fps video to 24 fps film rates or vice versa.

• Perception controls BVU protocol VCRs for video acquisition. VCR-like controls on the Perception's GUI simplify the task of batch digitizing and recording. In this mode, reads SMPTE time code from the source deck.

• Drivers for Windows 3.1 are supplied as well so third party editing software like Adobe Premier can be used. In fact the PVR-2500 bundled with the AD-2500 capture card, a sound card, editing software and one or more SCSI hard drives becomes a roto-linear editor of unparalleled performance at an unbeatable price.

AD-2500 CAPTURE CARD

• The optional AD-2500 is a video capture daughtercard, that transforms Perception into a digital video recorder. The AD-2500 has component, composite and S-Video inputs for real-time recording and storage capacity is limited only by the size and number of attached SCSI hard drives. Captured video can also be exported as sequential RGB files for roto-scoping and other compositing applications.

• The AD-2500 incorporates a sophisticated automatic entropy prediction circuit that analyzes the content of incoming video and dynamically calculates the optimum amount of compression on a field-by-field basis—even during real-time recording. You also have complete manual control over compression level/quality settings.

Turnkey PVR-2500 Animation and Video Editing System:

- PVR-2500 Perception Card • AD-2500 Capture Card • 220-watt, 4-bay midtower case • PCI motherboard with 256K cache
- Pentium 120 MHz processor • Diamond Stealth64 Video 2MB DRAM PCI display card • Quantum 1.28GB IDE system drive
- 32MB of RAM • Seagate (Barracuda) 4.2GB SCSI-2 Narrow hard drive • 3.5" floppy drive • Toshiba AX EIDE internal CD-ROM drive
- Creative Labs Sound Blaster 16-bit sound card • Alter-Lansing ACS-51 two-piece speaker system • Princeton Ultra 17 high resolution 17" multiscan monitor • Focus 2001A keyboard • Microsoft MS mouse MS-DOS 6.22 & Windows 3.11 operating system • Windows NT 3.51 operating system software • Newtek Lightwave 3D 4.0 animation software

Additional Options: Software NT 3.51 operating system software, Newtek Lightwave 3D 4.0 animation software **7295.00**

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 COT (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)

PROFESSIONAL VIDEO TAPE



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ST-120 7.99

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SAMSON

MR-1 Wireless System

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

Lavaliere (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-258 Shure SM58 Dynamic mic element & MR-1 Receiver 434.95
- SH-258 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, Lavaliere (clip mic) systems each includes:

MR-1 Micro Receiver, TX-3 Body-Pack Transmitter, Lavaliere Mic with Multi 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 camcorder 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 lavaliere 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 the 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

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

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

MACKIE

MICRO SERIES 1202-VLZ

12-Channel Ultra-Compact Mic/Line Mixer

Usually the performance and durability of smaller mixers drops in direct proportion to their price. Fortunately, Mackie's fanatical approach to pro sound engineering has resulted in the Micro Series 1202-VLZ, an affordable small mixer with studio specifications and rugged construction. It delivers no-compromise, non-stop, 24-hour-a-day professional duty in permanent PA applications, TV and radio stations, broadcast studios and editing suites—where nothing must ever go wrong.

- Working S/N ratio of 90dB, distortion below 0.025% across the entire audio spectrum and +28 dB balanced line drivers.
- 4 mono channels with discrete, balanced balanced mic/line inputs and 4 stereo channels (12 inputs total).
- Line inputs and outputs work with any line level, from instrument level, to semi-pro -10dB, to professional +4dB.

NEW! MS1402-VLZ

14 x 2 Compact Mic/Line Mixer

Mackie's fanatical engineers have done it again. Balanced inputs and outputs, 3-band EQ, AFL/PFL and deluxe tape monitor/Control Room feature. Nice long 60mm faders, six studio-quality mic preamps and extra 3-4 stereo bus—in less than 1.3 square feet of space.

- Studio grade mic preamps (chs. 1-6) with high headroom, low noise and phantom power. Also incorporate low cut filters to cut mic handling thumps, pops and wind noise. Lets you safely use low shelving EQ on vocals.
- Trim controls (chs. 1-6) with ultra wide range (+10 to -40dB) handle everything from hot digital multitrack feeds to whispering lead singers and older, low output keyboards.
- Pan control with constant loudness and high LR attenuation so you can pan hard left or right without bleed-through.
- Two aux sends per channel with 15dB extra gain above unity.
- 60mm log-taper faders are accurate along their whole length of travel and employ a new long-rearing contact material for longer fader life & upper resistance to dust, smoke etc.
- Control room/phone matrix adds incredible tape monitoring, mixdown and live sound versatility.
- Mute switch routes channel output to extra ALT 3-4 stereo bus. Use it for feeding multitrack recorder channels, creating a sub-group via control room/phone matrix, monitoring a signal before bringing it into the main mix or creating a "mix minus".
- Solid steel chassis instead of aluminum or plastic.

The new MS-1202, 1402 and 1604 all include VLZ (Very Low Impedance) circuitry at critical signal path points. Developed for Mackie's acclaimed 8-Bus console series, VLZ effectively reduces thermal noise and minimizes crosstalk by raising current and decreasing resistance.

NEW! CR-1604 VLZ

16-Channel Mic-Line Mixer

The hands-down choice for major touring groups, studio session players, as well as broadcast and sound contracting. The new CR-1604 VLZ features everything you would expect from a larger console, and then some! 24 usable line inputs with special headroom/ultra-low noise Unityplus circuitry, seven AUX sends, 3-band EQ, constant power pan controls, 10-segment LED output metering & discrete front end phantom-powered mic inputs.

- Lowest noise and highest headroom (90 dB working S/N and 108 dB dynamic range). Many drummers consider it the only mixer capable of handling the attack and transients of acoustic and electronic drums.
- Genuine studio-grade phantom powered, balanced input mic preamps on channels 1-8. All CR-1604 VLZ (and optional XLR10 for ten more) discrete input mic preamp stages incorporate four conjugate-pair, large-emitter geometry transistors. So, whether recording nature sound effects or heavy metal, miking flutes or kick drums, you get the quietest, cleanest results possible.
- True 4-bus design with channel assigns to 1-2, 3-4 or main L-R.
- 3-band EQ with mid-frequency sweep and low cut switch.
- AFL/PFL solo and mute switches with overload and signal present indicators.
- Rear panel features include insert points and 1/4-inch XLR connectors on every channel, as well as RCA tape inputs/outputs.
- New, standard size channel trim pots are found at the top of each channel.
- Rotary input/output "pod" allowing three different positions for set-up.

AZDEN PRO SERIES VHF WIRELESS MICROPHONES

The AZDEN PRO SERIES brings you high performance VHF wireless at an affordable price... 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 lavaliere mic systems as well as the WMS-PRO which includes a lavaliere and handheld mic.

COMPLETE SYSTEMS

WMS-PRO

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

WLX-PRO

- Sensitive lavaliere 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
- No wires, no belt-pack, no tangle-hassle free
- Operates on one AA battery for up to 8 hours
- Has a combination on/off-mute switch for quiet switching
- Includes shoe mount, velcro, earphone monitor 189.95

PRO SERIES COMPONENTS

WLX-PRO

- Lavaliere mic with belt-pack transmitter
- Same as WLX-PRO except without receiver
- Combine with the WHX-PRO and have a complete system of one handheld and one lavaliere mic with receiver 109.95

WMT-PRO

- Now owners of the WMS-PRO can get a completely wireless VHF handheld microphone with transmitter built in.
- Combine it with the receiver from the WMS-PRO or WLX-PRO and you now have the ultimate quality microphone for interviews or press around
- 3-position switch for on, off and "standby" for quiet switching
- Choose from 2 frequencies for cleanest sound 129.95

WR2-PRO

- Unique new receiver which allows you to use any two Pro Series mics simultaneously.
- Each transmitter can be 10 to 250 ft. from the receiver.
- 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

111 PRODUCER SERIES

Designed for professional videographers who need excellent audio reproduction, the 111 Producer Series is a professional VHF wireless microphone system that delivers excellent RF performance and wide frequency response - even under adverse conditions. Available in 10 frequency channels, the Producer Series has a range of 300' and is offered in handheld/lavaliere or plug-in systems. Each Producer Series system comes packaged in a black leatherette carrying case.

111R RECEIVER

The heart of the system, the 111R Receiver features output volume adjustment, balanced or unbalanced output capability and adjustable mute/squelch. It also has headphone output with volume adjustment, removable rubber ducky antenna and 900V battery or DC 12volt power input. It includes a mini-mini output cable, with mini to XLR & mini to phone plug, available as options.

31 HT HANDHELD TRANSMITTER

- High quality uni-directional dynamic element
- Unique rubber-coated durable ABS housing for comfortable feel and low handling noise
- Has 3-position power switch with standby for muting the audio
- Supplied with additional range-extender antenna

31 LT LAVALIERS BODYPACK

- Choice of high quality plug-in omni or uni-directional electret condenser microphone
- Input level control for maximum flexibility
- Constructed of durable ABS housing
- 3-position power switch with standby for muting audio

31 XT PLUG-IN

- Unique plug-in transmitter turns any dynamic "wired" microphone with XLR output into a wireless
- Full range of on-board controls, including power on/off, audio mute and status LED
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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.
- Also 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 650 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 28"-44".
- Also available in 13.2-Volt 14-amp version. The 13.2-Volt version offers 15-20% longer runtimes because industrial VCRs shut off at higher voltage levels. By not shutting off the Power-MAX is allowed to fully discharge, thus the longer running time.

VARA-LITE PRO

Professional DC On-Camera Light

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



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- Sturdy all-metal tilt mounting bracket with ratchet action. Eliminates shake under camera shoeing conditions.
- Optional barn doors enhance light control capabilities.
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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.



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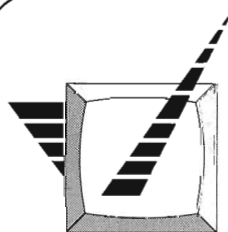
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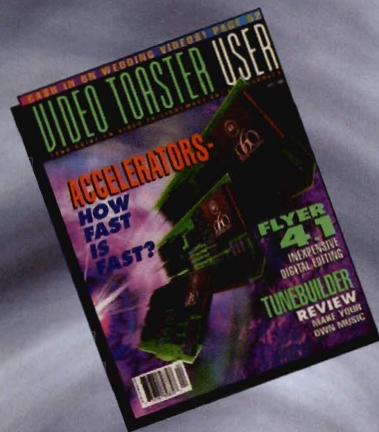
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Sparks	PC	\$225
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WaveFilter	Alpha	\$call
WaveFilter	PC	\$145
Fiber Factory	Amiga	\$95
Fiber Factory	PC	\$125
Fiber Factory	Alpha	\$195
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EAGLE 4000TE (Amiga Based Tower) Authorised Amiga Technologies OEM Product.

The EAGLE 4000TE lets you design an Amiga Based 4000 Tower to your own specification!

The EAGLE 4000TE is a new Amiga Tower system fully approved and supplied under an OEM agreement by Amiga Technologies. The system offers unrivalled choice, in that you may purchase a "bare bones" system and populate it to your own requirements with Hard drive, CPU choice, RAM choice, CD-ROM, Graphic cards etc. The Eagle 4000TE is based on a superior quality full height Tower, and the basic configuration begins with an A4000T motherboard, 2Mb Chip and 0Mb Fast RAM.

The beauty of this system is that you can specify what you require at the time of ordering. Therefore the usual upgrade losses are avoided as you have no redundant parts!

Using this method, a full EAGLE 4000TE system with either 68040 or 68060 processors can be purchased for a lower price.

Eagle 4000TE Bare Bones System:
High quality Xenon Tower, Motherboard with 2Mb Chip RAM and 0Mb Fast RAM: **\$1995**

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2GB	\$Call
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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
7-14GB 1.6GB/Hr	\$1995
10-20GB 5.4GB/Hr	\$2995
2040GB 5.4GB/Hr	\$6795

FLYer System-A ★ \$11,695

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

AS LOW AS
\$285
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FLYer System-B ★ \$12,995

A4000/40MHz-40 Warp Engine/18MB Ram/
1GB SCSI-2 HD/
ToasterOven-GT 4000/
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Two 2GB Flyer HD's and 2X CDRom

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A MONTH

FLYer System-C ★ \$13,995

A4000/40MHz-40 Warp Engine/18MB Ram/
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ToasterOven-GT 4000/
FLYer/Toaster/TBC IV/
Two 4GB Flyer HD's and 4X CDRom

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\$340
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FLYer System-D ★ \$12,195

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FLYer/Toaster/TBC IV/
Hanger 9-Bay/
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50MHz-060/18MB Ram/1GB SCSI-2 HD/
FLYer/Toaster/TBC IV/
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FLYer System-F ★ \$14,795

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2X CDRom/ASIM

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FLYer System-G ★ \$13,795

A4000TE/50MHz-060/18MB Ram/1GB SCSI-2 HD/
FLYer/Toaster/TBC IV/
Hanger 9-Bay/
Two 4GB Flyer HD's and
2X CDRom/ASIM

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\$335
A MONTH

LOOK ... FLYer System-G
Saves You \$1000 Over
FLYer System-F
Because Of The Eagle 4000TE!



FLYer System-H ★ \$15,995

A4000TE/50MHz-060/18MB Ram/2GB SCSI-2 HD/
FLYer/Toaster/TBC IV/
Hanger 9-Bay/
Two 9GB Flyer HD's and
2X CDRom/ASIM

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\$390
A MONTH

FLYer System-I ★ \$15,995

A4000TE/50MHz-060/18MB Ram/1GB SCSI-2 HD/
FLYer/Toaster/TBC IV/
Hanger 9-Bay/
Two 9GB Flyer HD's/1GB Audio and
2X CDRom/ASIM

AS LOW AS
\$390
A MONTH

ANTI GRAVITY HANGER™

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

Hanger	#	#	#	#	FLYer	Pass	Total
Model	BAYS	Watts	Fans	IDs	Ports	Through	Price
AGH-7	7	250	3	7	3	Yes	\$345
AGH-9	9	300	3	9	3	Yes	\$395

ImageFX

**New
Ver 2.6
\$225**

Ver 2.6

ImageFX ver2.6 The Complete Image Processing Solution

Amiga/AGA modes, EGS Spectrum, Retina, Picasso, Piccolo, Firecracker24, DCTV, ...

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Drawing Tools (Ellipse, Rectangle, Bezier Curve, Polygon,...), Soft Edge & Anti-Aliasing, Magic Wand, Cool Drawing Modes (Smudge, Colorize, Disperse, Sharpen), Paint Tools (Airbrush, Charcoals, Watercolors, Crayons), Drawing Styles (Rub Through & Alpha Channels), Cut Out Brushes, Magnification & Zoom...

Color Balancing, Correction, And Separation; Relief Maps & Motion Blurs; Solarize & Chrome; Blur, Sharpen & Unsharp Masks; Filters...

Create Lightning Bolts, Raytrace Image Onto Spheres, Ripples & Waves, Swirl Images (Even Into Other Images), Lens Flares, Paper & Canvas Textures, Turn Images Into Paintings, Water/Glass Distortions, Morphing, Warps, Stars & Supernovas, Crystallize, Rotate In 2 Or 3 Dimensions...

Amiga, Mac (MacPaint, PICT, TIFF), DOS (Gif, PCX, PIC, JPeg, Targa...), SGI (SGI RGB, Softimage, Wavefront), Animations (ANIM, ANIM7, ANIM8, MPEG, FLI...), Others (X11, Abekas, PAR, Sun...).



CONTROL TOWER \$145

Soar To New Heights With The Flyer

With the popularity of NewTek's Toaster Flyer, there are now squadrons of users out there firing up their Toasters and flying off to exciting new places every day. Control Tower is dedicated to enabling the Flyer to take you farther and in less time by providing a simple, convenient, time-saving interface with lots of options. As the name implies, with Control Tower you completely control the 'flight path' with Flyer Option such as:

- * Compositing Clips (Including Blue Screen Effects)
- * Picture In Picture
- * Record CG Overlays directly to Clips
- * Fix Broken Projects
- * Join Multiple Clips into One
- * Batch Process Frames To Clips Or Stills
- * Batch File Conversions
- * Batch Render through LightWave
- * Create Custom Transitions through ImageFX
- * Copy Lightwave Scenes and all related files to another drive
- * LHA or ZIP Lightwave Scenes and all related files and rewrites them to use the new paths
- * Build Clips from Individual Frames (Even From Different Directories)
- * Batch Image Process Clips & Frames through ImageFX & Toaster Paint
- * Build projects and automatically put transitions in between clips
- * Run ANY program directly from the Flyer screen
- * Globally Change Transition Speeds, FS Lengths, Volume, etc...

Over
200
Macros



Corporate Video Backgrounds \$Cali is a collection of 250 visually stunning, royalty-free backgrounds constructed primarily for bumpers, bullet builds, and video overlays. All backgrounds (by award-winning video graphic artist, Guy Bickel) were designed and constructed in Video Frame Buffers. This means no weird artifacting or unexpected strobing due to chroma saturation. For convenience and ease of use, the images are pre-categorized by type and are provided in Pict, Targa, and IFF 24-bit formats.

SURFACE PRO CD \$85

Finally, a collection of useful, ready to use, low memory, seamless surfaces for the LightWave professional. Surface Pro offers a wide variety of seamless image-based LightWave surfaces. Surface Pro gives you over 60 new surfaces that are instantly available through LightWave: Liquid Metal, Circuit Board, Nebula, Wood, Globe Wrap, Water, Flame, Marble, Chrome, & more.



New Flyer & V-Lab Motion EDL generator and VTR controller \$215
Decision Maker takes the drudgery out of moving selected chunks of video to the 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 desired footage will move to the harddisk. Then when the EDL is done you can take the EDL to an ON-LINE SUITE or REDIGITIZE at a higher resolution!

VISUAL FX VISUAL FX



Vol 1 \$125 ea.

You Don't Have To Go All The Way To Hollywood Anymore To Get Great FX.

Vol-1 by Leo Martin
Vol-2 by Mark Thompson
are State-Of-The-Art FX.

UNIVERSAL 3DCD PLAID COMPANION DIGITAL MUSEUM

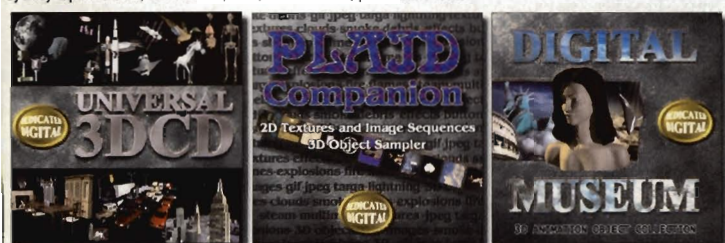
\$125
\$ 30
\$125

Each CD is compatible with Lightwave, 3D Studio, and any program that can use DXF objects or Targa images (common to most 3D programs). Other uses for the 2D elements could be with digital editing programs like Premiere, or most any web editor.

The UNIVERSAL 3DCD Featuring: 450 3D objects, 2D image sequence section and includes all 5 of the original collections (Citybuilder: Create a 3D Virtual City with 75 detailed 3D objects featuring high and low Resolution versions of recognizable buildings from major U.S. cities.), (Medical/Anatomy -25 objects), (Household Items -50 objects), (Space Essentials-50 objects), and (Autos/Vehicles-65 objects)

The PLAID COMPANION contains image sequences and textures for mapping onto 3D objects, creating multimedia and web sites, or for backgrounds etc. Included are fire, explosions, smoke, clouds, shockwave, bullet holes, control panels, buttons, and miscellaneous textures in targa, gif and jpeg formats, PLUS a 3D object sampler section containing a selection of 40 3D objects.

The DIGITAL MUSEUM is a collection of 200 high resolution 3D objects including a detailed man and woman with clothing, historic, legendary, and contemporary locations such as Notre Dame, Stone Henge, and the Sydney Opera House, and also air, land, and sea craft, plus much more.

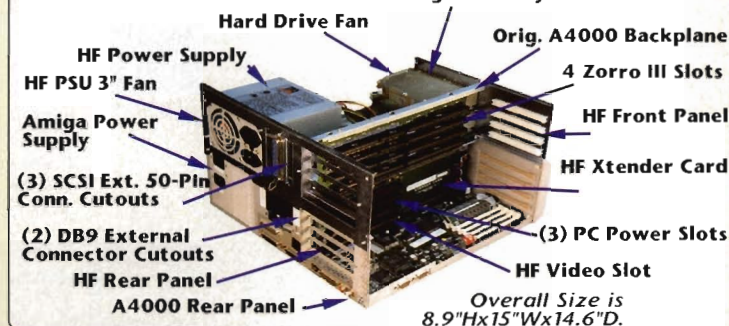


HIGHFLYER EXPANSION SYSTEMS

The HIGHFLYER was designed for the Toaster 4000 user that would like to make use of all four Zorro III and two 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 the Video A and B 3.5 X 1.7 inch editing drives, three 50 Pin Cent-two DB9 cutouts and an additional 250W power supply. Optional cable kit allows connection of external 9 Cig Drives without removing the cover. The HIGHFLYER installs in just minutes using just a screwdriver and maintains the same footprint. All metal double high cover is painted same color as the original.

- Features:**
- Four Zorro III Slots with Toaster
 - Three PC Power Slots
 - More 3.5" Drive Bays
 - Additional 250 Watts of Power
 - 3 External 50 Pin SCSI Ports
 - 2 External DB9 Ports
 - All Metal Double High Cover
 - Increased cooling capacity

Integrated Expansion Chassis for the Amiga 4000 Editing Drive Bay



HighFlyer	\$ 365
HighFlyer PS	
with Power Supply	\$ 385
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 SCall	

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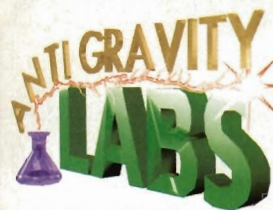
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AGL ToasterOven

A3000 & A4000 \$895

The Most Powerful Desktop Video System In The World! Just Got More Powerful!!!



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-Hgt 9GB Drives
More System Cooling Power.
3 External Flyer SCSI-2 Ports
All Metal RF Enclosure
Switches Monitor On/Off
300watt Switchable PS
18 Bays(2-31/2 ; 16-51/4 Bays**)
Greater Cooling capacity

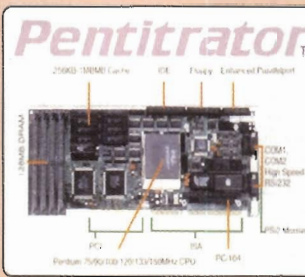
Pentitrator™

Don't keep Intel Outside Your Amiga; Put a Pentium into Your Amiga with the Pentitrator System Card From Anti Gravity Labs

The Pentitrator System Card allows you to add a full Pentium computer to your Amiga 4000* with speeds up to 150MHz.

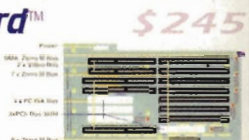
Specifications:	Pentitrator-XX	\$ 995
BUS: 132MB/sec PCI-Bus	Pentitrator-75	\$1245
CPU: Pentium 75-150MHz	Pentitrator-90	\$1395
ROM: PC104 EPROM	Pentitrator-100	\$1495
RAM: Up to 128MB	Pentitrator-120	\$1595
Cache: 256K-1MB	Pentitrator-133	\$1795
Int. PORTS: IDE & Floppy	Pentitrator-150	\$1895
Ext. PORTS: COM1, COM2, PS/2 Mouse, High Speed RS-232, Enhanced Parallel	Pentitrator-75SX with:	
Slot: Fits in the PCI and ISA bus slot**	Expander Bus Card,	
	AGL Tower Case	\$1895

(*Soon for A3000,4000T) **Requires Expander Bus Card and AGL Tower Case



Expander Bus Card™

The ultimate in slot expansion for your Amiga. It gives you 7-Zorro, 2-Video, 4-PCI, 3-ISA slots to your Amiga 4000. Together with the AGL Tower Case it provides a home for the Pentitrator System Card; Or a great expansion device for an over-loaded Amiga 4000.



AGL Tower Case™

The Perfect expansion case for your Amiga 4000 or Video Toaster Flyer System. And A Must for the Pentitrator System Card to add all those PC peripherals.

AGM Tower Case	
Without Power Supply	\$395
With Expander Bus	\$640
With Power Supply	\$495
With Expander Bus	\$740



On TV you have certainly seen titles, you have always wanted to create on your own video. This is now no longer a problem. Out of different, individually developed applications for various professional studios, an added-feature solution has been created, which we now make accessible for you. In detail this means that from now on, the creation of titles with special features such as glitter effects, flashlight, color palettes, 3-D perspective, etc. can easily be made by you in maximum quality - with possibilities so far only available in professional studios. The internal proceedings have been brought to perfection reducing even the hardware requirements to a minimum and last but not least building a user interface with amazing comfort. Forget everything you have ever seen about

titling. Start working with the new standard developed and tested in professional studios - work with Monument Designer, tool One should always follow the course of time - simply compare the performance of other software on the market to what Monument Designer offers you!
Everything Is Relative - Even Professional Titles
With the new release of Monument Titrer, version V2 Designer, we present you a completely new form of titling. Further to the previous titling features of version 1, it now offers widest possibilities of graphic design and even picture composition in contrast to bitmap painting programs, graphic elements can now be treated as free, single objects, so that the use of graphic formats, anti-aliasing or manipulation are no longer a problem. With the use of 24Bit + 8Bit Alpha channel - now even highly intense(SA)ting for users without graphic boards - possibilities arise by far exceeding all other titling features. Spotlights, light sources or other can be set, graphics and titles can be faded super smoothly and even the quality of anti-aliasing, transparency etc. is perfect. Further features such as text rotation oriented to the title vector, or the gradients created by the software - which can also be semi-transparent for video - justified to a sign, a whole text block or even to graphics. **PLUS MORE**

CLARISSA \$295

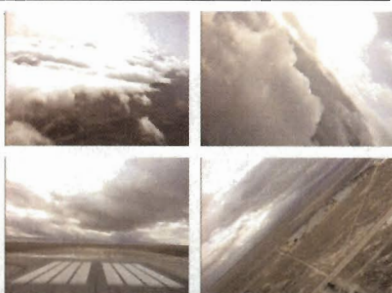
Clarissa Professional 3.0 - The Animation Operating System For Amiga
Clarissa - A Synonym For Speed, Smoothness And Realism In Animations

Everything that has so far only been possible for still frames, can now be realised in running animations. Running animations jumping into the screen in real-time, over wipes, and even animated keying or blue-screen effects (via Genlock) are now possible without any prior processing time for running animations. Furthermore, it is now for the first time possible to e.g. run different animations simultaneously on the same screen completely independent from format or colorpalette. Animations can now be freely combined independent from formats, which allows the partial reduction of color and resolution during extreme motions. New loaders like Anim8 Snap guarantee the compatibility to other products like Snapshot, Morph, LightWave, Imagine, Image Master, DPaint, etc. In addition, a window for editing the animation script has been created. In this window the whole timing, effect control as well as simple things like pauses can comfortably be entered. All these activities and operations can be recorded and later be called up as a macro at a different place. So you can create Alexex macros without having Alexex knowledge!

Royalty Free Stock Footage On CD-Rom
SnapCLIPS Shot On 35mm Film And Transferred To D2.
SnapCLIPS Provides You With High Quality Footage For Your Non-Linear Editing Or 3D Animation Needs And Is Available In Video Flyer & 24-Bit Image Formats.

SnapCLIPS: Airanaotics \$495

Over 20 Minutes Of Take-Offs, Landings, Flying Throughs Clouds, And Much More...!



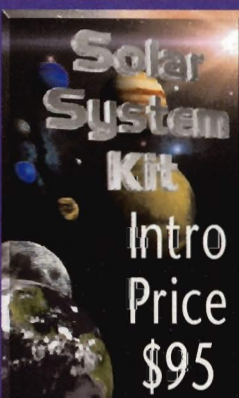
Snap ADO \$295



SNAP ADO gives you control over 100 different objects which can be a combination of images, text, and animations. Because Snap ADO takes a parallel approach to this, up to 100 objects can be moving around on screen at the same time. Such an example is unlikely to be put into practice but it gives you an idea of the power behind Snap ADO.
Snap ADO does three types of effects: 3D Rotation and Scaling, Slides (Simple Wipes), and Wind Effects. Currently there are over 40 predefined wind effects with names like Vortex, Flag, Wave, Sphere, Barricade, and Hurricane but you can customise your own variations. There's the added option to key images over others. When required Snap ADO will remove the background color from images allowing the background color to become transparent. A novel and unexpected feature is the working light source which highlights and shades objects as they move around the screen.

Features:
- Integrated environment with an easy and intuitive mouse-driven interface.
- Built in support for texts, pictures, animations, image-sequences (no need to paint them externally) and even customizable starfields.
- Object pre-process with automatic generation of shadow, bevel, outline, 3d border, anti-aliasing, colour remap, transparency, palette handling etc.
- Support for animations with a maximum of 100 objects in 10000 frames.
- Effects as "3D" for rotations, perspectives, zooms and 3D movements. Dozens of "Wind" effects, to generate explosions, vortex, spray, 34 "Slide" effects as pageturn, melt, compression, 40 "Warp" effects, acting like typical pre-programmed 3D sequences.
- Support of a light source, to make the effects even more attractive.
- Frame by frame animation preview, with a VCR-like control panel.
- Totally independent objects, with separated timings controlled by a timeline editor.
- Supported resolutions (NTSC/PAL) from 320x200 to 1472x592 super-hires with 256 colours from 16 Millions.
- Automatic OS3.1 DataTypes support for images and sequences (you'll be able to import any known image format).
- Generation of XFA animations (Extra Fast Animations).
- Ability to render and save single frames or entire animations in separate IFF files.
- Code optimized for faster processors and math coprocessors.
- Free external programs with AREXX interface, to play and convert XFA animations.
- Free fonts, images, animations and ready-made scripts, for an immediate use in your productions.

The SolarSystemKit contains in addition to the nine planets and our moon, some additional goodies such as Bonus Objects:
* Asteroid 1 (Self Explaining)
* Asteroid 2 (Self Explaining)
* BasicPlanet (Sphere with no surface, use your own images to create your planet)
* BasicPlanetLarge (Gas planet)
* GenericWALMosphere (Self Explaining)
* HydrogenAtmosphere (Another Gas planet)
* Liquid 1 (Gas/Liquid mixture)
* Liquid 2 (Another Gas/Liquid mixture)
* Moon 3 (Fictional moon)
* Moon Rocky (Fictional moon)
* Moon SemiRocky (Fictional moon)
* Terraforma (Planet still forming)
* Terraforma 2 (Planet still forming)
* Annularis (Nebula object)
* Nebula (Nebula object)
Misc. images: Actual photos from NASA to use as backgrounds. Samples of animations using these for backgrounds. Brushes have also been included as well as trimasters of all of the images.



Snap Maps: Fields & Foliage
SNAP MAPS: Fields & Foliage
Building Materials & Fabrics
Whereas other texture libraries help you enhance objects you created - Snap Maps help you create objects!
Fields & Foliage \$129.95
Building Materials & Fabrics \$129.95
Super Bundle: F&F plus BM&F \$240.00

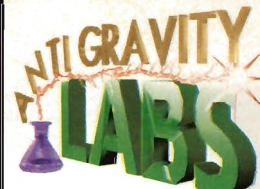
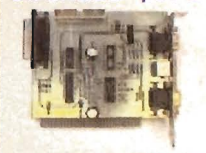
NEW! Version 2.1 Pixel 3D Professional \$195
UPGRADES SCAN
is the most powerful object/logo utility available. Use PixelPro2 to convert bitmap pictures of logos and shapes to 3D with unrivaled speed and quality. Smooth, extrude and bevel your converted bitmaps with precise control.
Use PixelPro2.1 to load, save and display seventeen different 3D file formats, including 3D Studio, Imagine, complete DXF AutoCAD and LightWave scenes and objects. Pixel 3D has become a standard in the Video Toaster and 3D animation workplace.
Load and save 17 different 3D file formats including: LightWave scenes, LightWave objects, Imagine Objects (with hierarchy support), complete DXF AutoCAD support, 3D Studio (ASCII and Binary), Wavefront & more!
Pixel 3-D

WaveLink Ver-1 \$95
Connects any Amigas for file sharing and distributive rendering using LightWave Light Rave. You even batch render!
Anim Workshop Ver2 \$95
Anim Workshop Ver2 provides tools to create, play, process, edit and add sound to your animations. Add Sound V.2 supports all AGA modes, Anim5, 7, & 8

Integrated Amiga & PC with the new Siamese System.

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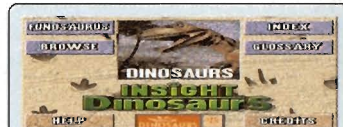
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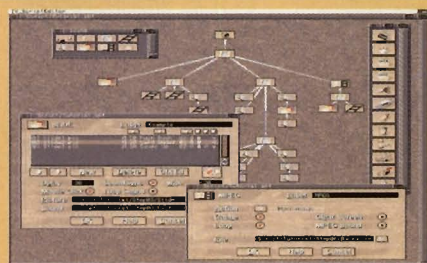
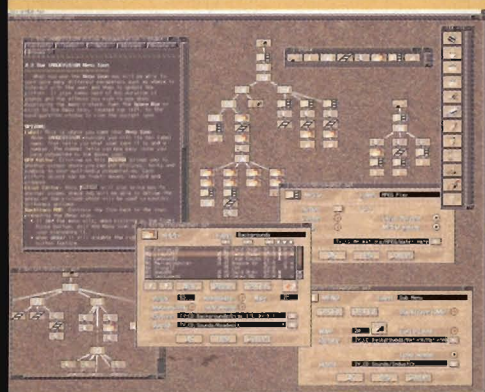


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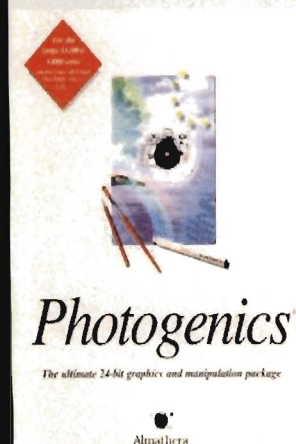
IMAGEVISION Intro Price \$185



Features:
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♦ Requires AGA chipset
♦ Supports MPEG writing and playing
♦ Easy to use interface with selectable tool bars, interactive buttons
♦ Online Amigaguide help system



♦ Many different types of wipes including Super Impose
♦ Easy to learn and use scripting language
♦ Icon based interface
♦ Comes on CD-ROM with many example scripts, textures, animations etc.
♦ Lots of easy to follow tutorials
♦ Supports Amiga OS drag and drop features



Photogenics Version 2.0 \$195

Photogenics combines the features of a powerful image manipulation package with the ease-of-use and creative freedom of a traditional paint program.

You can load a variety of different images (JPEG, GIF, IFF, etc.) and save them in different formats, but Photogenics is much more than just a simple conversion system. If your aim is to paint then use one of the multiple built in natural brushes (chalk, pencil, pastel, etc...) or simply retouch the picture with the airbrush - everything is easy with Photogenics. Through the variety of operations and the powerful visual Warper and Alpha Channels, image manipulation has never been so enjoyable.

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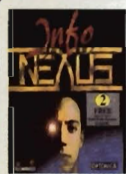


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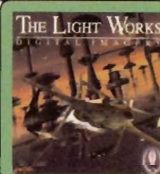
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- Major Features:
- Break the 16 scene barrier!
 - Render the scene backwards.
 - Detailed node information.
 - Uses the LWSNEXE version 4.00 & higher.
 - Manage your ScreamerNet network more efficiently.
 - Schedule when you want to start and stop rendering.
 - Paging ability for updated render info or warnings and errors.
 - Will estimate time of completion for each scene being rendered.
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 - Everything ScreamerNet II can do, & much more!

WaveNet Pro offers the LightWave Professional an entire network rendering solution. Gone are the scarce controls and limited abilities of ScreamerNet. WaveNet is a total replacement for the LightWave ScreamerNet Panel, not a plug-in. It is a separate application that can be run without LightWave- leaving LightWave free to create new scenes. This saves both memory and resources. WaveNet Pro has many features that the LightWave Professional can use to make rendering animations a joy. These features will come as a welcome shock to many animators, and will set a new standard for network rendering for the entire 3D industry. Many of the things that WaveNet Pro does was suggested by top LightWave animators, such as Area 51 (the makers of Space: Above and Beyond), giving you the broadest range of usability available.

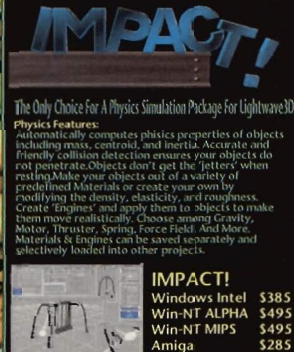


WaveNet Pro (Win-NT Intel)

5-Node	\$295
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TVPaint is a drawing program designed by artists for artists. It contains all the drawing and image processing tools you would expect to find in a graphics program, and more... As an artist oriented application, it comes with a number of features and 'details' that means the artist will find work a delightful experience. Imagine an unlimited number of brushes, pencils and crayons... more than you could ever count, with as many colors as you can think of. An infinite number of canvases, access to digital animation recorders, for rotoscoping, or retouching frames of video, '3 plates of glass' to paint on, and suddenly imagination takes over. These are just a few of the 2100 functions that make up TVPaint. Since each of these functions performs as quick as lighting and are easy and logically accessed from the stylus or mouse, you can let your creativity flow. Once you've used TVPaint, you'll wonder how you got by before. If you want restrict your artistic talents to antique dealers and posterity, then consider buying and easel. However, if you want the sensation of painting on canvas, combined with the power of a superb graphics package, then what you want is the best artists tool available.



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- Wind can affect particles and a chaotic turbulence can be specified that changes over time and distance.
- Particles can be set to change colors and transparency automatically based on age, speed, acceleration, collision, and death.
- Force Fields can be created to attract or repel specified particles.
- Particles can collide with objects in your scene. The elasticity and roughness can be specified.
- Flocking and swarming can be specified for groups of particles.

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LAST WORD

Blood, Sweat and Icing

Getting the Credit you Deserve Only Happens in the Movies

by Mojo



The hero kisses the heroine, the music swells and they live happily ever after. The credits begin to roll and you get up, stepping in a big pile of Raisinettes and trying to remember where you parked. If you're a bit more of a homebody, once those credits roll it's time to get a snack or go to the bathroom before the next show begins.

In either case, most of the free world never reads the credits. We all have more important things to do than read all those nonsensical titles.

The irony, of course, is that it takes more wheeling, dealing and fighting to sort out those final few minutes than it does to make the entire movie! Make no mistake about it—getting credit in Hollywood is no easy task. In this town, giving credit where credit is due is something that only happens *in the movies*.

Take me, for example. For the pilot of *Babylon 5* (a two-hour syndicated movie), I was given credit at the end as an Animator. I was only a novice at the time, but it is practice to give credit to virtually everyone in a two-hour movie and so it made me very happy.

Two years later, I was a Supervising Animator, directing the FX for many of the episodes and working ten times as hard. Did my credit reflect this? Of course not! In fact, for the first two years of *Babylon 5*, the producers refused to credit *any* of the animators on the show! Series television is different, you see, and there is much less time for credits than in a movie. On a weekly show, only the department heads get credit; in essence, the people doing most of the work never get any credit at all. You can bitch and moan all you like, but in the end it's up to the whim of the producer to decide who gets credit and who doesn't. Like it or leave it.

Fortunately, after two years of nagging, a few of us at Foundation Imaging were given the great honor of a credit. Once a week, for approximately 15 frames, my name can be seen scrunched up into a tiny corner of your TV screen over an anchorperson's shoulder. If you sit *real* close, know exactly where to look and don't blink, you can spot it. Ah, the thrill of victory!

And yet thousands of people working in Hollywood go to much greater lengths than mere begging to achieve this goal. Just about everyone I spoke to has, at some time, either been screwed out of credit or had to fight like the devil to make sure they got it. Usually the producer hires a department head (or a company) to take care of an aspect of the production (for instance, special effects). The FX supervisor then employs a team to do most of the actual work involved. When the work is done, the supervisor tells the producer who should get credit for what. This is

where things get sticky.

Some supervisors don't want to share credit. Maybe it makes them feel more important to be at the top of a short list of names; maybe it will look like he (or she) did more work. Whatever their reasoning may be, it's up to the employee to fight for their credit. In most cases, negotiating your credit should happen *before* you start a job. If you end up working harder than anticipated, or are given more responsibility, you can demand a better credit (probably in lieu of more money). If the boss refuses, you can either walk away from the project or just be happy with the money and the fact that you actually have a paying job in Hollywood.

In the end, you still might get shafted (it happens all the time). Despite your agreement, the supervisor may simply decide not to give credit (in which case you don't work for him/her again and they get a nasty reputation). Sometimes the producer realizes that he has been given too many names and has to cut some. A good supervisor will know in advance how much credit he's allowed to give—a really good one will fight with the producer to get credit for deserving employees.

Even when all goes well and you get your credit, they can screw it up. Your name might be spelled wrong. You get the wrong credit. It goes by too fast to read. The network decides to cut the credits out to make room for another commercial. In the end, all the blood and sweat you pour out to get that coveted line on the screen winds up being ignored in favor of bathroom breaks and the rush to the car. So why bother?

Admittedly, screen credit does little more than satiate the ego. Everyone likes to see their name up on the screen. Sure, it might be seen by some bigshot producer, but all it really does is swell your head, impress your friends and make your mother proud. It's nothing more than the icing on the cake of working in show business.

But you know what? Like many of you, I grew up watching TV, going to the movies and dreaming of one day becoming a part of it all. Now, many years later, a lot of that idealism has been replaced with the harsh realities of Hollywood; like long hours, impossible deadlines, hard-headed producers and crashing computers.

But once a week, at the end of *Babylon 5*, I watch my name in the credits, and for a fleeting moment, I remember that I'm living my dream and the world knows it. Pure ego? Maybe. But on a cake that can be so bitter, you just gotta have that icing!

VTV

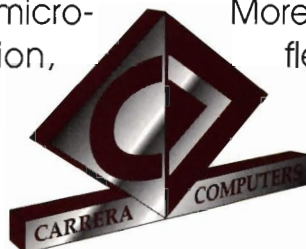


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Ron Thornton

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