MARKETING YOUR VIDEO, PAGE 44

VIDEO TOASTER USER

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

MARCH 1996

Video To PRINT
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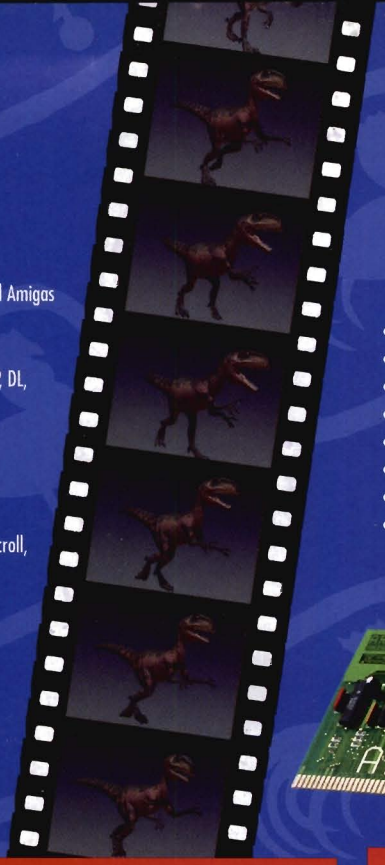

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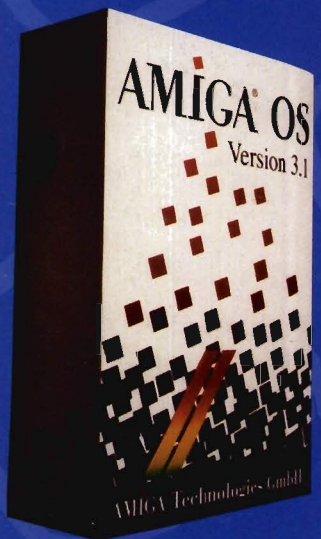

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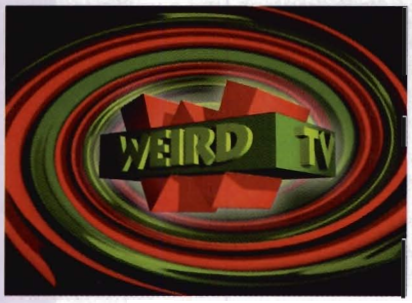

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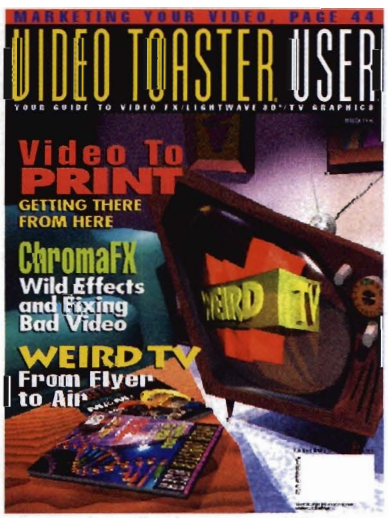

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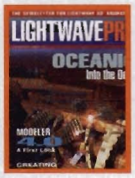

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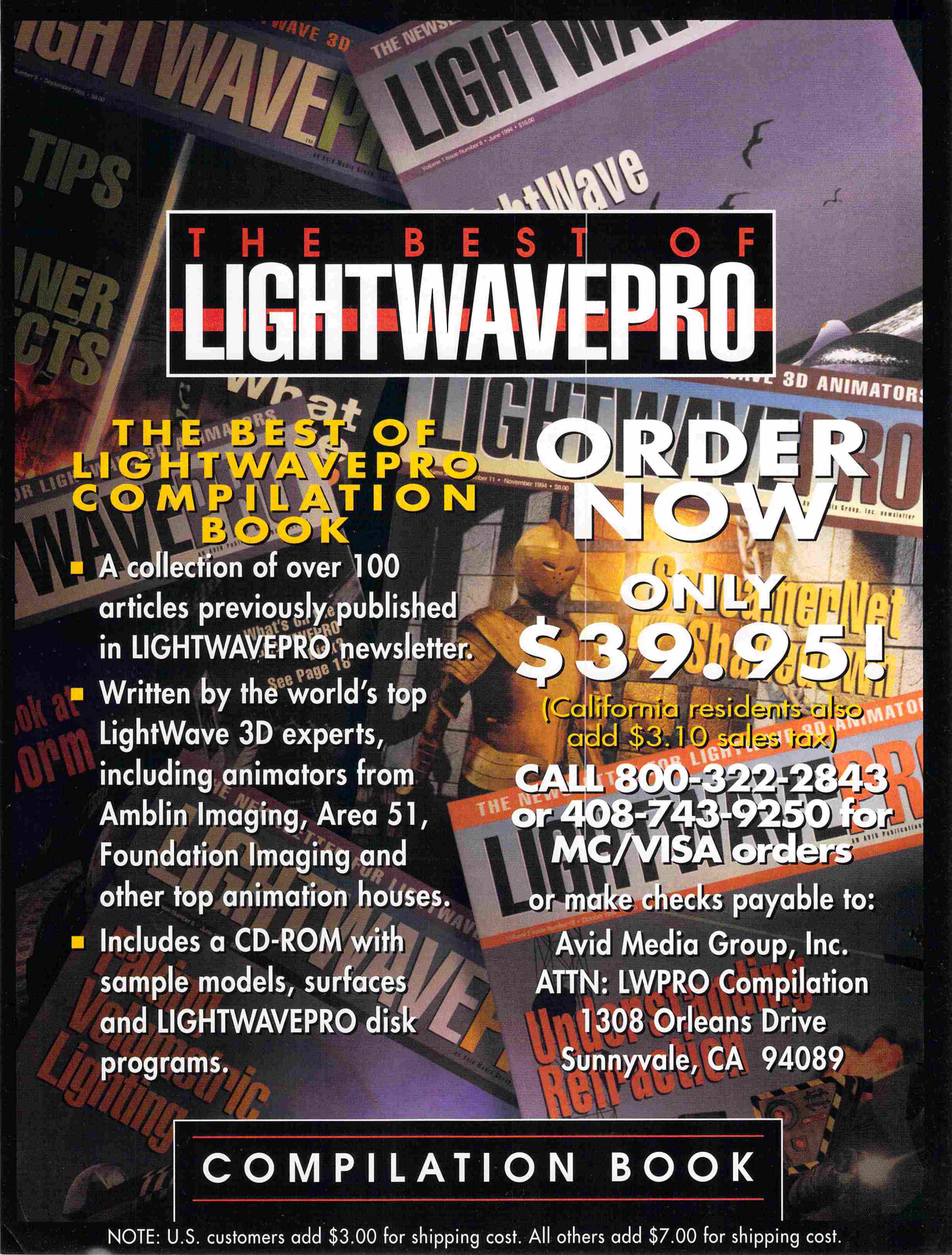
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TOASTER TALK

March to the Future

Embrace Change!

by Tom Patrick McAuliffe

The old adage says the more things change, the more they stay the same. I'm not so sure that's true anymore. Things *are* changing with businesses in our industry. You and I should ensure that our voices are heard as these businesses look to evolve into the next century. After all, if we don't let them know our needs—who will? A recent speech I attended via close-circuit TV helps, I hope, to illustrate the point. The big-time suit and tie from the gargantuan Silicon Valley graphics company droned on about the virtual 3D environments needed on the net for efficient data retrieval and interaction. His company now has a *better* way. Grandiose schemes of virtual reality (VR) environs where we all walk through hallways of file cabinets?! Yeah, *that* figures. Can't we be a little more creative? It was a standard speech filled with more of the same promises and plans we've been hearing the past few years. When asked about the file cabinet idea, the speaker proudly said, "Oh we came up with that idea!" It's a shame that it seems the larger a company becomes, the more lethargic and myopic it gets. It's amazing to me the number of companies that are fairly successful yet lack any *real* vision for the future (luckily NewTek is not one of them). Despite proclaiming the latest and greatest, most companies just rehash old technology/ideas and don't break any truly new ground.

Upon further reflection, the speech re-emphasized, for me at least, a very important point: No other group of people is so perfectly matched to the developments that are about to occur than—you! Video Toaster/Flyer users and LightWave 3D animators are perfectly poised for explosive growth as the next wave of the digital revolution envelopes us. On a budget, yet still have creativity and a message for the airwaves? Get your hands on a Video Toaster! Want real-time, D2 broadcast-quality, non-linear video editing? Flyer! Want to talk about creating virtual 3D environments? Try multi-platform LightWave's easy-to-use interface and cost-effective price.

Mark my words—1996 will be a *great* year for those who have paid their dues on the front lines of the digital video battle. VRML (allowing 3D graphics and animations to be displayed on the net and giving you the freedom to download objects and files anywhere day or night), Internet optimization for delivery of real-time audio and video (show your product or demo reel to the world!), Video Dialtone (imagine being able to consult with a client anywhere in the world via video over the phone), DVC (those little digital cassettes hold an amazing 11 GB of information!), the newer Digital Versatile Disk (DVD) which holds more data and offers cheap read/write abilities and other emerging technologies spell big dollars for those who embrace and explore them. No other group of people is better suited to the digital challenges of tomorrow than Video Toaster and LightWave users!

Reverberations

At the 1995 *Video Toaster User* Expo, one of the many announcements came from NewTek consultant Dan Wolf. He unveiled the release of the System Developer Kit (SDK) with ARexx hooks and development information for LightWave 3D and the Toaster. This kit, which allows almost anyone to create their own software tools, and the new support for HIIP and multiple image/anim formats make LightWave 3D (and the Toaster for that matter) all the more powerful. With the freedom to make their own plug-ins, filters and macros, users can cross-pollinate among platforms and software programs at will. The information is available for *free* (which is unheard of) from NewTek's BBS (913-271-9299), via the Internet and FTP at ftp.newtek.com, and on CompuServe in the Amiga Vendor Forum NewTek library (Go AmigaV). Technical support on the documentation is only offered to certified commercial Toaster developers, however. You can also order the disk, binder and desktop-published documentation for $50. E-mail Mr. Wolf at 70250.626@compuserve.com or fax him at (805) 922-5003.

Another Expo announcement that has come to fruition is the release of AMG's *LIGHTWAVEPRO* compilation book and CD-ROM. With the 100 best articles from past issues, the collection also comes with all the associated objects and scene files on CD making it an outstanding value.

Weaving the Web

We now have a new publication called *REC* (Record)! Created initially as a quarterly on-line digizine, *REC* will give you unique information on creative video *acquisition* techniques. *REC*'s first upload contains features on prosumer video cameras, the new digital camcorders, innovative interview techniques and a video entrepreneur profile. Check out this exciting area at www.portal.com/~amg. The *LIGHTWAVEPRO* and *Video Toaster User* sections at our WWW site have also recently been redesigned. This has been due in large part to the efforts and talent of two individuals: Harv Laser, an Amiga veteran and the SYSOP on Portal's "The Amiga Zone" and Brian Tatosky of Equinox Images, who is one of the best Web masters out there. Their efforts are inspirational, and we owe them a debt of gratitude. If you'd like to assist with our Web site, get in touch with me! We, like our readers, are poised for growth on-line and elsewhere. Enhancements on our Web site will continue, and we welcome your input!

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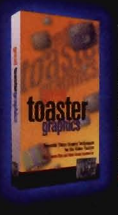

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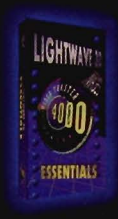

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FOR INFORMATION CIRCLE 118

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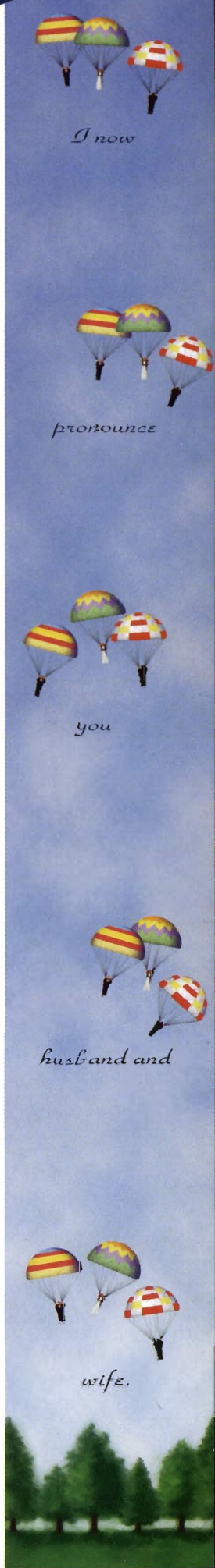

TOASTER TIMES

A NEW BUSINESS OPPORTUNITY:

Video Production Franchises

by Julie Sheikman

What do you think of when you hear the word franchise? Restaurants, perhaps, or maybe professional sports teams. But you probably don't think of videography, right? Well, Clifton Hildreth has—and he stands to gain a lot from his novel idea.

Hildreth, president and founder of the Sunnyvale, Calif.-based Infinity Video Productions, Inc., started out the way many people do in the video business—by accident. His original career ambition, back in 1977, was to start his own recording studio; Hildreth got his degree in music performance and composition. What got him into video was his offer to film a friend's wedding. The rest of the story is typical: "Somebody saw it [the friend's tape], and asked me to do [a video]...pretty soon people were offering me money to film things. A light went on in my head at that point. I was struggling to make $10 to $12 an hour recording bands in my garage, and all of a sudden, people want to give me a hundred bucks to hang out at their party for five hours. I thought, 'This is gonna be the way to go.'"

However, the video business remained a side job until 1987, when he decided to take the plunge and go full-time. "I sold a house I owned, and with the equity I got, I said, 'It's now or never—stop fooling around with the half this or half that.'" He focused on wedding video because it was what he knew best. That first year was rocky—"I believe I made $6,000 all year shooting wedding videos."

As Hildreth's business began to pick up the pace, his outlook on the video business also evolved. "What's different about my outlook on my business than that of other videographers or video companies is that a lot of people treat our business [wedding video] like it's plateaued, like it's already been around for a hundred years.... I look at video like we've barely scratched the paint off the outside of the container. I really think that the growth potential right now is just beginning, although our growth [Infinity Productions'] has been phenomenal over the past seven years." The company currently employs 25 people throughout the state.

The Toaster has played a large part in the success of Hildreth's company. "I went to the Holiday Inn and saw NewTek's...seminar for all of us guys who had been hearing about [the Toaster] for years...I realized the Toaster would give me the ability to do what looked similar to television-type production."

And Infinity Productions continues to keep up with the pace of technology. The company has two Toaster bays and a Flyer suite, and many of the latest software programs, including Montage, WaveMaker, Morph Plus, ADPro, Scala Multimedia and LightWave are used. The company's not heavily into animation yet, but plans have been developed to start pressing CD-ROMs for the Amiga and the PC, collections of

Infinity Productions' president Hildreth in the studio at the Sunnyvale, Calif., location.

graphics and backgrounds for video production. On the CDs, Hildreth remarked: "It's a little different [than what we've been doing]... it just struck me that there's very little available on CD-ROM for the Amiga,

Hildreth's company operates in eight locations, in addition to the franchises.

whereas you can find thousands of background CDs for the PC or the Mac."

Hildreth's marketing strategy developed around getting name recognition. "I realized...that it was more important to get as many videos out with Infinity Productions' label on people's shelves, for their

A sample clip from an Infinity Productions' video.

friends, mothers and grandmothers to see. That's been my strategy basically." He also credits his strong marketing and sales background, acquired from the other companies he'd worked for in the past, and stresses that real-world business edge for others who may venture into the video industry. "[Many] people come from an artistic background—they're great videographers. But if you can't sell it, nobody cares how good it is."

Thanks to Hildreth's marketing strategy, Infinity Productions now has eight offices throughout California, and the company's products now range from the traditional wedding video to a variety of corporate projects, of which the combined offices do several hundred a year.

And that's where the franchise business fits in. Hildreth says, "I'm maxing out on the number of businesses I can run personally...[The franchisees] only have to open a small office to see clients and show demonstration material. They would operate under our name—the name of the franchise owner—and pay us a royalty. This way, they don't have to buy the editing equipment. They shoot the videos and send them to us [at the Sunnyvale, Calif., location, the main production facility] with all the materials. We do [the videos] on the Toaster: finish them, edit them, label them...and send then back ready to hand to the client." Infinity Productions is installing another Toaster bay in the Los Angeles, Calif., area to lessen the turnaround time for clients. Hildreth adds: "We plan, as the franchise network grows, to put in regional editing facilities where the growth tends to be. We can't lower our prices much more, but we can certainly feature a benefit like shorter turnaround time." The company has just sold two franchises, one in Anaheim, Calif., and another one in Marina, Calif. Hildreth is negotiating a third sub-franchise with an interested party in Puerto Rico, who would then have the rights to sell franchises for Puerto Rico and South America. "It'll be quite a huge step for us if that comes to fruition." Judging by his track record, Clifton Hildreth will soon be bringing his video franchise to your neck of the woods, too.

If you'd like more information on Hildreth's franchise opportunity, contact him at:

Infinity Video Productions, Inc.
1028 W. Maude Ave., Suite 403
Sunnyvale, CA 94086
(800) 330-VIDEO

VTU

TECH TIP OF THE MONTH

Flyer A/B-Roll Tip!

Always leave room on each Flyer drive! To execute A/B-rolls between two Flyer clips that reside on the same hard drive during the processing phase (after you press the play button and before the Flyer says "Ready to Play"), the Flyer will copy portions of the head or tail ends of video clips to available space on other drives. When split edits are present, then the audio from the video clip supplying the split audio will be copied to the audio drive.

If you fill up *any* of your drives, then those drives are unavailable for these "cross-copy" files, which can disrupt A/B-roll operations. In practice, we find it best not to fill any drive beyond 80 percent capacity. That way, all drives remain available for A/B-roll operations, with plenty of room for the numerous, and sometimes large, complex, temporary files needed for even a simple project.

—Chuck Baker,
NewTek Technical Support

Amiga-Authorized DEALERS

The Amiga Lives!

This is the latest (partial) list of authorized dealers for Amiga products. Service Management Group, the U.S. distributor of the Amiga, is signing up dealers and processing orders daily. Any of these dealers can process your Amiga order. If your local dealer does not appear on the list, encourage them to sign up! Dealers can contact SMG at (410) 715-6850 or e-mail them at pbielski@interramp.com (CompuServe: 72060,3271).

FOR INFORMATION CIRCLE 139

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Software Supermart
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403-425-0691

VFX Video, Inc.
Richmond
British Columbia
604-244-3000

Legendary Design Technologies
Brantford
Ontario
919-753-6120

Wonder Computers, Inc.
Ottawa
Ontario
613-226-0000

Comspec Communications
Toronto
Ontario
416-785-3553

Info Plus
Trois-Rivieres
Quebec
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PACIFIC RIM

System Compbac, Inc.
Tokyo
Japan
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UNITED STATES

SoftWood, Inc.
Phoenix, AZ
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Troxell Communications, Inc.
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MicroTech Solutions
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Select Solutions
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708-442-0009

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Smith Audio Visual, Inc.
Topeka, KS
913-235-3481

Icon Computers & Software
Bridgewater, MA
508-697-6060

Crimson Tech
Cambridge, MA
617-868-5150

The Camera Company
Norwood, MA
617-769-7810

Kipp Visual Systems
Gaithersburg, MD
301-670-7906

EMH Systems
Auburn, ME
207-784-2048

Amiga Crossing
Cumberland, ME
207-829-3959

Thalner Electronic Labs
Ann Arbor, MI
313-761-4506

Slipped Disk
Madison Heights, MI
810-546-3475

Alpha Video
Edina, MN
800-388-0008

A/V Solutions
St. Paul, MN
612-698-1175

VIP Systems, Inc.
Chapel Hill, NC
919-968-9477

Magic Page Products
Winston-Salem, NC
910-785-3695

Amicom Computer Technology
Omaha, NE
402-556-6160

Sir Render A/V
Mays Landing, NJ
609-625-0472

KBI Systems
Mountainside, NJ
908-654-3600

Electro-Tech
Las Vegas, NV
702-435-3201

The Microworks
Buffalo, NY
716-873-1856

Area 52, Inc.
Coram, NY
516-476-1615

Amigo Business Computers
East Northport, NY
516-757-7334

Armato's Pro Video
Glendale, NY
718-628-6800

CTL Electronics
New York, NY
212-233-0754

Tri-State Camera, Inc.
New York, NY
212-633-2290

T.J.'s Unlimited
Rochester , NY
716-225-5810

Copperhead Technologies
Schenectady, NY
518-346-3894

Software Link, Inc.
White Plains, NY
914-683-2512

Compuquick Media Center
Columbus, OH
614-235-1180

Penguin Music Store #3
Toledo, OH
419-882-0961

Magic Box, Inc.
Corvallis, OR
541-752-5654

Computer Users
Springfield, OR
541-726-8500

Computer Discount Center
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Mega Bytes
Pittsburgh, PA
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Electronic Connection
West Reading, PA
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Kasara Microsystems
Hilton Head, SC
803-842-5058

Via Video Interaction
Knoxville, TN
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Camera Corner, Inc.
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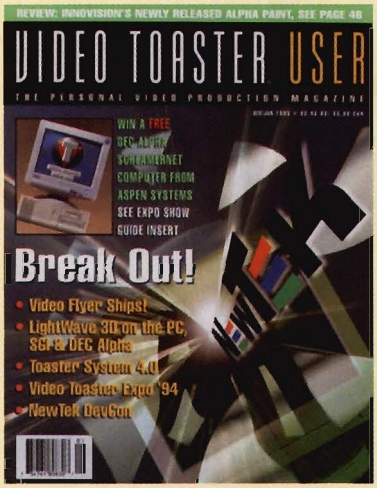
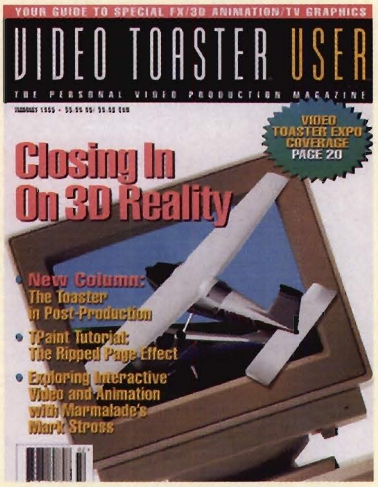


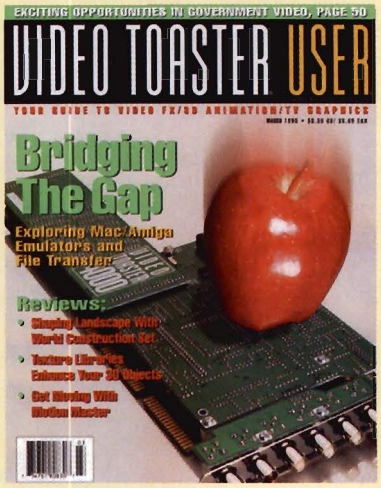
December/January 1995

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



February 1995

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

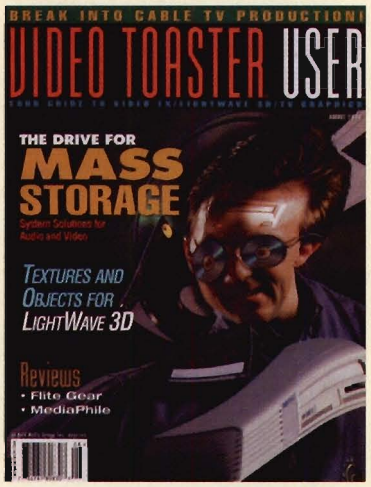


March 1995

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

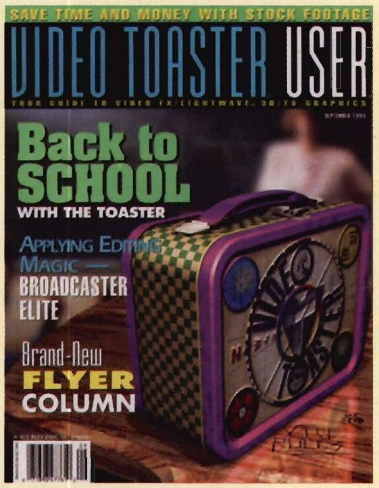
July 1995

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



August 1995

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



September 1995

Taking Stock: Affordable Excellence With Stock Footage; The Toasterized Classroom; The Flyer Live; Pushing Pencils tutorial; Broadcaster Elite, MacroForm and Photogenics reviews

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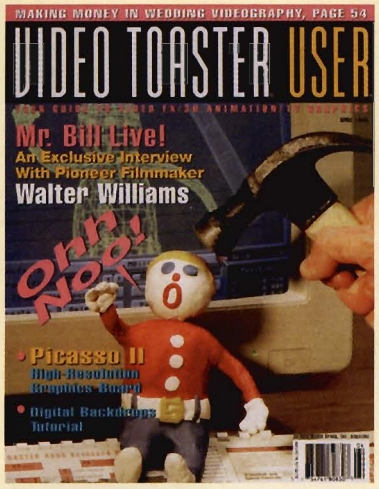
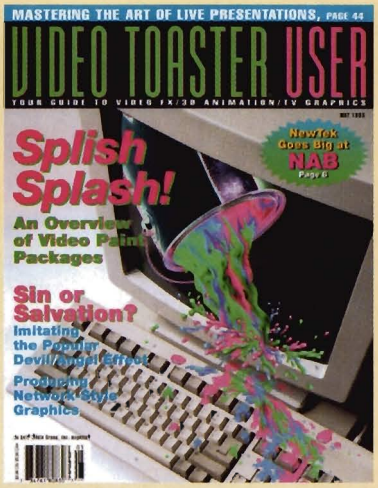


April 1995

Mr. Bill Live! An Exclusive Interview With Pioneer Filmmaker Walter Williams; Wedding Video and the Toaster; 3D Brushes, Boolean Toolbox, and Digital Backdrops and Flats tutorials; Mackie 1202, Picasso II reviews

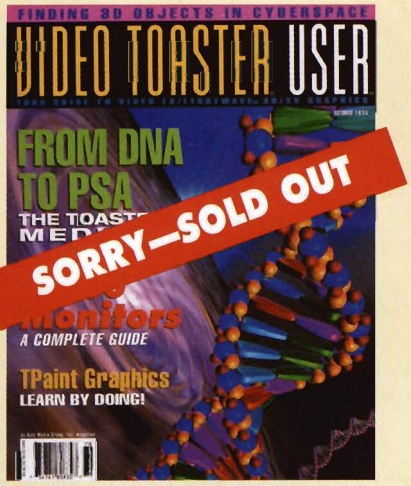


May 1995

How to Plan, Set Up and Survive a Live Presentation; The Toaster Wins Big in Sports Video Production; An Overview of Toaster Paint Programs; The Devil/Angel Effect; CD-ROM Textures; VLab Motion II review

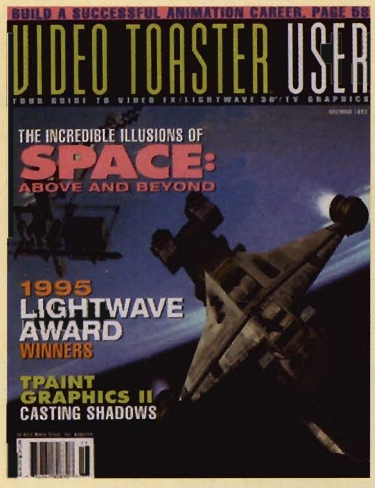
June 1995

Pixel Crunching: A Look at Image-Processing Programs for the Toaster; Multimedia and the Toaster; Double Punch and Paint Parade tutorials; AutoPaint 3.1, 3D Digitizers and WaveMaker 2.0 reviews



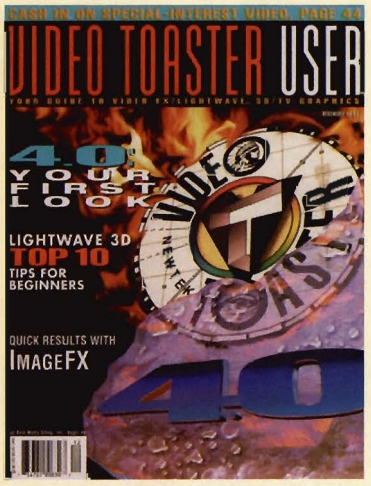
October 1995

From DNA to PSA—The Toaster in Medicine; Raiders of the Lost Archives (Internet/WWW objects); Monitor Mania; Awesome Underlines: TPaint Graphic Separators; Wavey Treasure Chest tutorial



November 1995

The Wavey Awards; Conquering the Animation Business; Area 51 Gives *Space: Above and Beyond* a Powerful New Look; Darkside tutorial; Perception, T-Net and "Post Prod. with the Video Toaster" reviews



December 1995

Cash in on Special-Interest Video; Video Toaster 4.0: Your First Look; ImageFX Batch Processing; LightWave Startup Checklist, Part I; Working with LightWave's Camera; Decision Maker, LightWave in.focus reviews

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1308 ORLEANS DRIVE, SUNNYVALE, CA 94089

NEW PRODUCTS

Compiled by Julie Sheikman

Making Your Work Easier

Product: AG-EZ1U DV-Cam
Description: Digital camcorder
Price: $4,500
Panasonic
One Panasonic Way
Secaucus, NJ 07094
Phone: (800) 524-0864
(201) 392-4319
Fax: (201) 392-6001

Another addition to the growing list of digital recording devices is Panasonic's *AG-EZ1U DV-Cam*. This Digital Video (DV) format 3-CCD digital signal processing camcorder weighs less than 2.4 pounds and will record one hour of digital component video on a miniature DAT-sized, 1/4-inch cassette. The hand-held camcorder features three 1/3-inch IT CCDs to produce 500 lines of horizontal resolution, a signal-to-noise ratio of 54 dB, minimum illumination of 5 lux and draws only 7.5 watts of power. It records component digital video to assure high image quality and uses 5:1 intra-frame compression to prevent motion artifacts. The AG-EZ1U has a large, adjustable 180,000-pixel color viewfinder; digital electronic stabilization; a 10:1 optical and 20x digital electronic zoom; built-in SMPTE time code generator; three-dimensional digital noise reduction; a 14-step electronic shutter to record fast-moving objects; 16:9 wide aspect ratio; Y/C and composite outputs; auto white balance and black balance; 5-pin control and stereo audio output. The camcorder allows close-up focusing down to a minimum distance of 1.5 inches. Users have manual control over iris, white balance, shutter speed and backlighting. The unit has a Digital Still Shot function that allows recording of still images, such as maps and graphics, for about six seconds, while audio continues as normal. A total of 290 still images can be recorded on a single 30-minute tape, and 580 pictures can be stored on a 63-minute tape.

FOR INFORMATION CIRCLE 1

Ready for Springtime

Product: Blossom
Description: Video workstation
Price: $14,999
Creative Equipment International
5555 W. Flager Street
Miami, FL 33134
Phone: (305) 266-2800
Fax: (305) 261-2544

Creative Equipment International, a multimedia manufacturer, has announced the release of its new video workstation, *Blossom*. Blossom is a ready-to-use production system that features titling, 3D animation, special effects and broadcast quality digital editing.

The Blossom workstation comes complete with a 133 MHz Pentium main processor; 32 MB EDO high-speed RAM; 64-bit, 4 MB high-performance video card/AWE 32 audio card; SCSI II implementation that supports up to 15 storage devices; 1 GB hard drive; high-speed video/audio 4 GB hard drive; and CD-ROM and floppy drives. The tower case is constructed with 19 storage bays and a redundant, fault-tolerant power supply (600 watts).

Blossom operates on a Windows platform, and it features the Adobe Premiere 4.0 digital editor interface, Software Audio Workshop System audio mixing system, LightWave 3D and SCALA M100 multimedia authoring system.

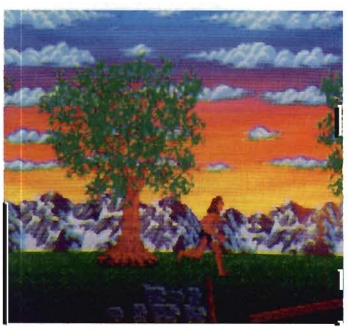
The system's other technical specifications include 720x40 video pixel resolution; RS170A and CCIR-601 compliance; variable compression ratios of 4.5:1 to 50:1; 8 audio tracks, 44.1 KHz, 16-bit sampling; and 75 standard transitions, EDl support, and timeline assembly.

FOR INFORMATION CIRCLE 2

Make Your Own Games and Get Organized, Too

Product: DiskMAGIC, GameSmith Development System
Description: Disk management software, game development software
Price: $69.95, $129.95
Oregon Research
16200 S.W. Pacific Hwy., Suite 162
Tigard, OR 97224
Phone: (503) 620-4919
Fax: (503) 624-2940
Internet: orres@teleport.com

DiskMAGIC, from Oregon Research, is a disk management utility that performs a variety of time-saving functions. The software duplicates all AmigaDOS commands—copy, delete, rename, protect, etc.—which are available at the push of a button. Sixteen configuration utilities are included, each covering a specific area of



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FOR INFORMATION CIRCLE 123

the software, including window layout, device list, fonts, screenmode, file types, and gadgets.

DiskMAGIC has a user-definable, file types facility that allows users to perform a series of actions, including internal, external, AmigaDOS-batch and ARexx commands, when an unknown file type (e.g., a graphic, sound, clip art or archive) is encountered. Also included in the software is a configurable launch utility, DiskDOCK, which makes the running of Workbench/CLI programs, ARexx scripts, batch files and DiskMAGIC functions easy.

The program has configurable viewers and players for a wide range of file formats: hex files, ANSI/ASCII text files, IFF/ILBM pictures, IFF anims and HSN/IFF sound files. DiskMAGIC is compatible with all Amigas running Workbench 2 (or higher), with 1 MB or more of free RAM.

Professional game development on the Amiga is made easy with another product by Oregon Research, *GameSmith Development System (GDS)*. GDS allows users to build up their animations graphically in the interactive character animator, CITAS, and then output them in C or Assembler source code.

The software can customize all aspects of objects, including sequence, placement, speed, display method, priority and object collision detection parameters.

Complex animation sequences can be saved out as single objects, and the program provides optional encryption to protect work. GDS features chain objects, automatic virtual space and virtual object handling, and dynamic animation control.

The GameSmith Development System fully supports and is compatible with, all Amigas, including AGA. A C compiler (DICE Lite) and 680x0 Assembler (Devpac GS) are included free with this package.

FOR INFORMATION CIRCLE 3

Small, Fast and Different

Product: Ricoh RDC-1
Description: Digital camera
Price: $1,800
Ricoh Corporation
475 Lillard Drive
Sparks, NV 89434
Phone: (702) 352-1600
Fax: (702) 352-1615

Ricoh has announced the release of the *RDC-1*, a digital camera designed for multimedia applications. The RDC-1 stores data on industry-standard PC memory cards (also

known as PCMCIA cards), and users can transfer the images and information directly to a Mac or PC, or transmit them over phone lines via a modem. The camera can be connected directly to a television of Ricoh's optional 2.5-inch LCD monitor for immediate playback. The camera can also output to a video printer for color stills.

The RDC-1 can record a maximum of 492 still images, four motion scenes with sound (five seconds each) or about one hour and 40 minutes of sound on a 24 MB PC card. It can capture a succession of different data: still images, sound, still images with sound (ten seconds each), continuous shooting, or motion scenes with sound in any order the user chooses. Data can be retrieved and erased, even at the time of shooting. Incorporating a 410,000-pixel charge-coupled device (CCD), the RDC-1 records full-frame still or continuous images at Super-VHS quality (768x480) resolution.

The camera comes with utility software that can transform data into popular file formats, including TIFF, AVI, PCX and WAV. It also features a high-performance zoom lens shutter and viewfinder, and the 3X zoom lens ranges from 7 mm to 21 mm. The camera offers automatic focus, exposure and white-balance features. A credit-card-sized remote allows users to operate the camera from a distance. The RDC-1 measures 5.25 inches x .75 inches x 2.75 inches and weighs nine ounces.

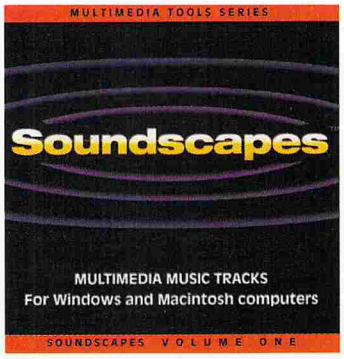
FOR INFORMATION CIRCLE 4

Sounds Like a Good Thing

Product: Soundscapes Multimedia Tools Series Volume I
Description: Music CD-ROM
Price: $49.95
REMedia
13525 Midland Road, Suite C
Poway, CA 92064
Phone: (800) 5-REMEDIA
(619) 486-5030
E-mail: helpdesk@remedia.com

Soundscapes, by REMedia, is a new collection of music tracks on CD-ROM. The royalty-free compilation of 34 original music tracks was composed and performed by musician Eric Speier, whose credits include scores for movies and CD-ROM games. The music of Soundscapes is a blend of orchestral, blues, rock, jazz and techno styles, covering a variety of moods and situations. Many of the tracks have multiple loop points, which provide a "construction kit" that users can tailor to suit whatever length is required.

Soundscapes tracks are provided in 22 KHz mono



AIFF and WAVE formats as well as 44 KHz stereo AIFF. An onscreen controller lets users preview tracks and graphically indicates any loop points within a track. A set of notes written by the composer is provided on the CD with some tips on how to get the most out of using the loop points.

FOR INFORMATION CIRCLE 5

Escape to Invention

Product: ScapeMaker 4.0
Description: Amiga software upgrade
Price: $49.95, $69.95 for bundle with FractalPro Image Library (call for upgrade prices)
MegageM Digital Media
1903 Adria Avenue
Santa Maria, CA 93454
Phone: (805) 349-1104

MegageM has announced the release of its upgrade *ScapeMaker 4.0*. ScapeMaker converts Amiga IFF images into VistaPro DEM format. The software now converts drawings, digitized images, scanned images,

maps and more into LightWave and DEM format for rendering. ScapeMaker loads and processes AGA 256-color images, in addition to 2-32 color and HAM in NTSC and PAL lo-res and hi-res. With this version, users can create, scale, smooth, add, subtract

and perform Boolean operations on 3D objects in both DEM and LWO formats. This software is being offered in a bundle with FractalPro Image Library CD-ROM. This CD-ROM contains dozens of fractals in VistaPro DEM 3D object format as well as hundreds of FractalPro images.

FOR INFORMATION CIRCLE 6

It's a Small World?

Product: Image CELs People
Description: CD-ROM
Price: $99.00
Imagetects
7 W. 41st Avenue, Ste. 415
San Mateo, CA 94403
(408) 252-5487

Real-looking people are the subject of Imagetect's new CD-ROM, *ImageCELS People*. The disc contains 72 men and women dressed in casual, business and sporty attire, in a variety of poses. All age groups are represented. The images are presented in crisp, 32-bit alpha mask technology, and three files sizes are included.

FOR INFORMATION CIRCLE 7

VTU

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FOR INFORMATION CIRCLE 197

DEAR JOHN

The Default Scene

Reusable Objects, Scenes and Lighting

by John Gross

Q: As usual, I have a few questions that, hopefully, you may be able to answer. I created a mech (i.e. along the lines of Battletech or Robotech). I set the local origin for each separate object that made up the mech in Modeler. Next, I parented the objects hierarchically in Layout. Finally, I positioned all of the objects and saved the scene.

The parenting and positioning information is lost if I load the mech into a different scene. I find the process of re-parenting and re-positioning the objects to be tedious. How do you save an object like a humanoid or a mech with all of the parenting, local origin (pivot points) and positioning information so that you have a complete "action figure" object that you can load into any scene?

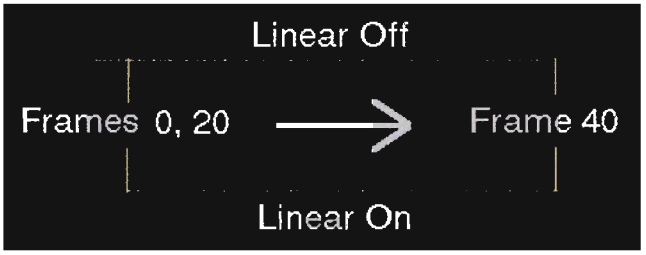
My second question has to do with the process of keyframing an object. Let's say that I keyframed an object at frame 20 in exactly the same position as it is in at frame 0. Now, if I move the object and keyframe it at frame 40, I get a bizarre side-effect; the object path changes so that the object moves backwards at the beginning, and then moves forward. Why is this, and how do I avoid it?

W. Jared Brookes
Calgary, Alberta
Canada

A: First things first. You're absolutely right—re-parenting and re-positioning the same objects over and over again can be tedious. Allen Hastings added the Load from Scene (Objects panel) button in LightWave 2.0, and it's nearly impossible to work in LightWave without it. Simply set up your "default" scenes the way you want and when you wish to load a complete scene into another, use the Load from Scene button. LightWave will ask you if you want to load the lights from the scene you are loading as well as the objects. If you say yes, all the lights will be loaded. This feature is a necessity for animators to load vehicles and environments complete with default lighting setups.

Any scene loaded with Load from Scene will load all the objects with their parenting, motion, sizing and rotation values. Also any bones used in objects will be loaded as well. If you have lights that are a "part" of objects (such as the rotating lights on a police car), Load from Scene will bring them in, complete with their parenting, motions, flares and colors (assuming you chose to load the lights as well). Here are some tips for using Load from Scene:

- When setting up a scene containing lights you will load, delete any extra "key lights" that are not actually lighting the objects. Otherwise, you may have an extra main light that is adding too much light. I have default *Star Trek: Voyager* scenes set up with just the ship and all of its blinking running lights (no key or fill lights to light the ship). When this is loaded via Load from Scene, all the lights are brought into the scene located in place, without any extra lights.



- When setting up a default "action scene" of a person walking, for example, it's a good idea to parent the main object to a single null object as a placement tool to get the set of objects into a new position in the new scene.
- Don't save clip maps and displacement maps as part of an object file, but rather as part of a scene file. You can set up a scene with a single object that uses a clip/displacement map. Using Load from Scene to load this object will load its clip/displacement map.
- Keep all of your default scenes in a separate directory, such as the Objects directory. You can change the following line in Layout's config file (LW-config, LW.cfg or .lwrc depending on if you use an Amiga, Windows NT or SGI system) to reflect the path you want Layout's Load Scene requester to default to when you first use Load from Scene.

For HierarchiesDirectory Scenes, change the default of "scenes" to the pathname you want the requester to seek first.

As to your second question, the reason Layout is moving the opposite direction in the beginning is because LightWave tries to create a smooth motion path between all keyframes. It doesn't know that you want it to hold in position unless you tell it to. Select the Spline Controls button (s) at frame 20 and select Linear. This will tell Layout to make a straight path or linear one from frame 0 to frame 20. Since they are in the same place, the object will not move until after frame 20.

VTU

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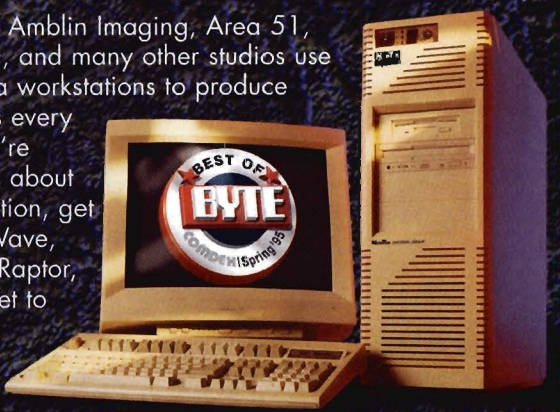

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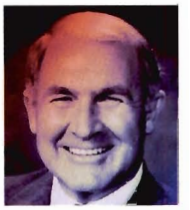
FOR INFORMATION CIRCLE 196

TOASTER POST

Esoteric Post-Production Tips

TPaint Fixes and More!

by Burt Wilson



The word "esoteric" is one of the nastiest terms in the English language. It means "known only to the initiated." In Toaster language, that translates into "I've been meaning to get into that function, but I just haven't had the time." Translated into everyday Toaster-talk, it means "I'm intimidated by it."

What this English lesson all comes down to is that we have to jump in and get our feet wet on all functions of the Toaster, no matter how ego-deflating it may be to us. Had Oliver Wendell Homes been talking about the Toaster rather than Life, he might have said, "As the Toaster is action and passion, it behooves us to share the action and passion of our time; that peril of being judged not to have Toasted."

Figure 1: This is the raw scene I was forced to take of two curio cabinets standing against a show window. To get good exposure, I had to let the background go almost stark white.

I admit that I never got into the "Colorize, And, Or and Xor" functions of TPaint's Mode drawer until a student of mine asked about them. Sheepishly, I said, "Well, let's learn about them together." Since then, these notes have saved my cart many times in the post-production process.

A recent case comes to mind. I was asked to do a commercial for a furniture store that wanted to feature its curio cabinets, among other things, in its sales message. When I got to the store with camera and gear, I found that the only curio cabinets in the store were placed with their backs to the front show window (Figure 1).

"What a bummer," I thought, wondering if I could move them around for a better shot. No way. They were too heavy, nobody was around to help, and there was no place else to move them to. Furniture stores tend to have crowded floor space.

To get a good, colorful shot of the cabinets, I would have to open the iris almost all the way which would turn the background of the windows and the outside white. "OK," I said, "I'll fix it somehow in post."

Glass and Mirrors

I fixed the shot (Figure 2) with the Colorize function in the Mode menu. Using the Straightline tool with the Fill button on and the Transparency and Warping sliders set to 50%, I held down the left mouse button and traced around the window elements of a freeze-frame I made of the shot. When I clicked on the right mouse button, that area filled in nicely with blue. If the blue was too light, I hit the (A) key (for Again) and another layer of blue went into the same area. After some experimentation with this function, I achieved the exact blueness I wanted. As you can see, it made a world of difference in the final product.

However, because the iris of my camera was so open and because curio cabinets have so much glass and mirrors in them, you couldn't tell they were curio cabinets! Once again, the Colorize mode came to my rescue. This time, I set the color to the default brown of the main TPaint menu and began doing the cabinets the same way I did the area around them. This made the brown parts richer and the white areas a shade of tan. After a lot of manipulation, it all came together nicely. Ta dah! The Toaster came through again!

The thing to remember here is that using the Colorize mode changes the chrominance of the color values on the screen without changing the brightness or luminance. That's why this mode is so viable in the post-production process. It's a very powerful tool for that reason alone. And you can also use it for colorizing a black-and-white picture. Don't get your expectations up too high for this latter function, however.

And, Or and Xor

Matrix Productions is best known for its "Pro Wipes" software (Volumes I & II), which adds a variety of new, professional-looking wipes to your Toaster's function. The programs are especially good for weddings and special occasions. They also distribute a six-disk set of backgrounds called "Video Collage."

I use Video Collage because it has fine-textured

backgrounds and includes such things as cloud formations and money scenes—great for retail use in cable TV commercials. In choosing backgrounds to work with from this collection, I also used the And, Or and Xor functions, also found in the Mode panel. For example, let's say I find a nice, textured background I want to use, but it's the wrong color. So? Change it in TPaint.

First, import the textured background into TPaint. Then, click on the color you want to change the background to in the program's default color selection panel. Now, go to the Mode menu and highlight the And function. Click the Rectangle and the Fill tools, and place the cursor in the screen. Hit the (W) key (for Whole screen), and your new color will Immediately begin scrolling down the screen.

If the color's too dark, lighten it by using the Transparency and Warping sliders. Of course, you can always use the Lighten and Darken functions in the Mode panel, too, but only after you have changed the color.

The Or and the Xor functions work in a similar manner, but with big differences. Here is a thumbnail outline of what each can do. I would suggest cutting it out and putting it where you can refer to it when you have to:

The And Function—makes everything the selected color.

The Or Function—adds the selected color to the screen.

The Xor Function—reverses the colors on the screen.

As you can see, the Xor function is the most interesting of the three, but it's also the one you'll probably use least because it's quite random in its operation. Try it and you'll see what I mean.

There are some caveats concerning the Or and the Xor functions. These functions will frequently give you colors that are opposites, but of the same intensities. This causes the pixels to go wild with vibration. If you like the result and want to use it, you can tone it down by going into the Blur mode and laying down a 50% Blur (set the Transparency and Warping sliders to 50%) over the entire screen.

Figure 2: I fixed the problem in ToasterPaint using the Colorize tool, which is located in the Mode drawer. After I colored the background and added color to the cabinets, I processed all the edges with the Blur mode to solidify and blend the scene.

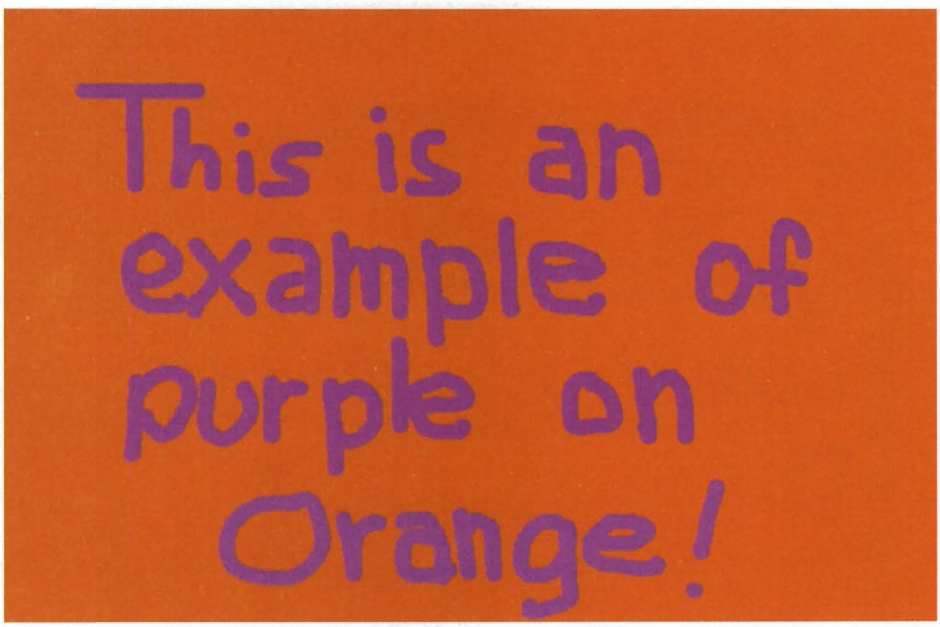


Figure 3: This is a good example of a color combination that may look good in print, but not in the pixelized color of video. To use color correctly in TPaint, you have to know your color wheel and how those colors appear in the final video.

With either of these effects, you may end up with a posterized look. It's not all that bad. The least you should do is experiment with all these functions to get an idea of what you can use and what you find undesirable.

I get a kick out of the Or mode because you can take a color frame of an outside shot and lay a medium gray tint over it using the Or Mode and the scene will look as if it was shot at night. I chuckle and think back to my movie days when all el cheapo movies shot nighttime scenes in daylight, using a black-red filter. You can always distinguish

By using a background from the Matrix Video Collage collection and ToasterPaint, you can make just about anything look good!

these scenes by the shadows on the ground and the clouds in the sky!

(Speaking of el cheapo movies, Randolph Scott was the king of them. He shot the movies he personally produced, not in the typical 3-color process we know as Technicolor, but in a 2-color process called Cinecolor. He may have saved the cost of one color, but all his movies that use this process have a pervading green tint to them, and the nighttime shots look ridiculous!)

FOR INFORMATION CIRCLE 109

Your Own Color Education

Assuming you're not as cheap as Randolph Scott, I suggest that if you're serious about doing graphics—or you at least want to talk intelligently to a graphic artist—you should learn about color.

Remember when you were in kindergarten and you were doing all those great paintings with such freedom of expression? One day you suddenly thought: "What if I mix all the colors together? Won't it be beautiful?" So you did—and it turned out to be this cruddy brown mess.

Well, that's what I mean. We all should have a working knowledge about how certain colors fit together. Back in the '60s, I worked with an art director who was the first to combine purple and orange in a national ad campaign. It was beautiful! But if you try to do that on a Toaster, you'll get a vibrating mess that will be very hard to look at (Figure 3).

Why is it OK to combine these colors in print but not in video? That's a whole learning process involving color correction. When large companies produce $300,000 commercials featuring beautiful, colorful logos, you're looking at something that has been through the hands of a professional color correction person who has painstakingly used special paints and tints to get the right combination of colors, the true colors you see on your video screen.

Let's face it, you're not going to go through that process for the corner gas station's cable TV commercial. But it does help to know that such things can be done, though it costs a lot of money to get it right. At least you'll have an explanations for clients who claim the color doesn't look quite right!

So learn how to use a color wheel. Learn the laws of color so you can break them when you need to. Learn what you have to do with the Toaster to make something turn out the way it's supposed to. Remember, color pixels are another breed of animal, and if you're going to work with them, you should understand how they go together and how they function. See you next month!

VTU

Burt Wilson owns Burt Wilson Productions, a video and multimedia company in Simi Valley, Calf. He is also author of the book Complete Post Production with the Video Toaster. *Reach him on-line at burtwilson@aol.com.*

Company mentioned:

Matrix Productions
(Pro Wipes I and II—$89.95)
(Video Collage—$59.95)
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Cedar Rapids, IA 52402
1-800-962-1873
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FOR INFORMATION CIRCLE 194

THE FLYER SUITE

Flyer Cornucopia

Tips, Products and Advice!

by Frank Kelly

Thanks in no small part to Amiga Technologies' shipping of Flyer-compatible Amigas, there are now many new Flyer owners out there! For the benefit of those new to the Flyer or this column, I am going to re-emphasize some important points that you may have heard before. I also have a few tips for the veteran Flyer owner, so there's plenty of reason for you to read on, too.

CD-ROM Drives and the Flyer

Your Flyer software and many other useful products (such as Club Toaster and Motion Clips) are distributed on CD-ROM. When using the CD-ROM on your Flyer system (attached to the Flyer C drive bus), it's best to launch the CD6 CD-ROM driver only when you need it instead of placing the driver in the DOS driver's drawer or in the startup folder. Because the CD-ROM driver constantly "looks" at the SCSI bus to see if a disk has changed, it will interrupt the data flow from your audio drive during the Flyer's use of the C bus to access audio elements in your edit sequence. This interruption can cause stuttering in addition to other glitches affecting both audio and video performance. Note that it's not necessary to physically remove the CD-ROM drive from the Flyer C bus when not in use.

After your Flyer software is installed, the CD6 icon will be located in the DOS Drivers\Storage drawer. To launch the CD6 driver, just double-click on its icon. You can copy files from the CD as required to Flyer drives via the Files-Files view within the Flyer software, and then exit the Flyer and do a warm boot of the Amiga (Ctrl–Amiga–Amiga) to restart the computer without loading the CD6 driver. Incidentally, this advice does not apply when you're using a different SCSI card other than the Flyer to launch or mount the CD-ROM.

Using Flyer Drives for Framestores and Audio

It's tempting to use your Flyer video drives for storage of Framestores and audio clips. However, this can create problems that may not show up immediately but will eventually pop up to haunt you later. Problems ranging from dropped frames during digitizing to weird audio anomalies on playback of certain sequences can sometimes be traced to an errant Framestore or audio clip that was copied to a video drive. Your best bet is to use the Flyer video drives for flyer clips and put the other elements on their appropriate drives.

Getting the Most From Your Flyer Hard Drives

Be aware that, as a general rule, you should try to reserve about 10 to 20 percent of your Flyer drive as unused space. This space allows enough headroom for the Flyer to copy the temporary "heads and tails" files needed to perform certain transitions. These temp A/V files are created for your edit sequence and then later removed by the Flyer software when you shut down the system. If you should turn off the system without executing a proper shutdown (by selecting it from the views menu or by pressing Ctrl–Alt–F10), these temp A/V files will remain and can cause problems. There is a command (VOIDALL) that can be executed from the CLI (Command Line Interface), which will remove all temp A/V files from all Flyer drives. For those not used to the CLI, the command can be run from the Amiga Workbench from the Workbench pull-down menu. Simply type VOIDALL into the requester that comes up after selecting Execute Command.

Temperature Extremes and Flyer Performance

The components on the Flyer card generate a fair amount of heat that needs to be dissipated in order for the Flyer to operate properly. When the card is installed in cramped quarters (such as in the desktop A4000 with other circuit boards), the ventilation may not be sufficient to properly cool the Flyer. Problems such as audio and video glitches can nearly always be eliminated by increasing the air flow in and around the computer area. There are a couple of things you can do to help the situation. Check the area immediately around the computer case itself. If you are using the case of your computer as a stand for your monitor, you could be aggravating the problem. By placing a couple of small spacers (such as small 2-inch x 2-inch blocks) between the monitor and the case, you can decrease the ambient heat inside the case by as much as 200 percent. Also, check the ventilating fan located on the rear of the A4000 desktop models—some of them were installed backward. If yours is one of the affected units, the fan must be reinstalled in the reverse direction. You can also modify your existing case by cutting or drilling vent holes, but take care to

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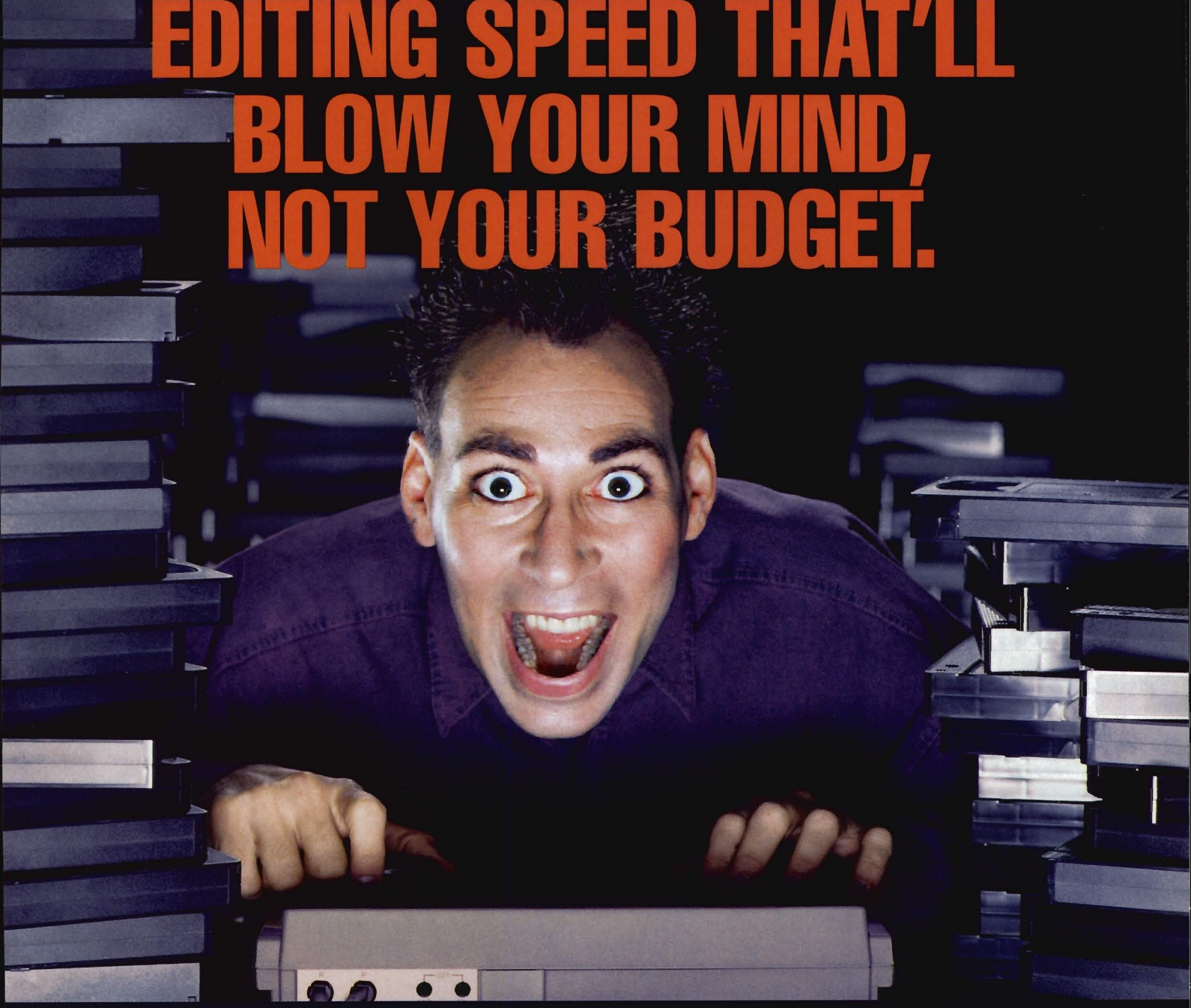

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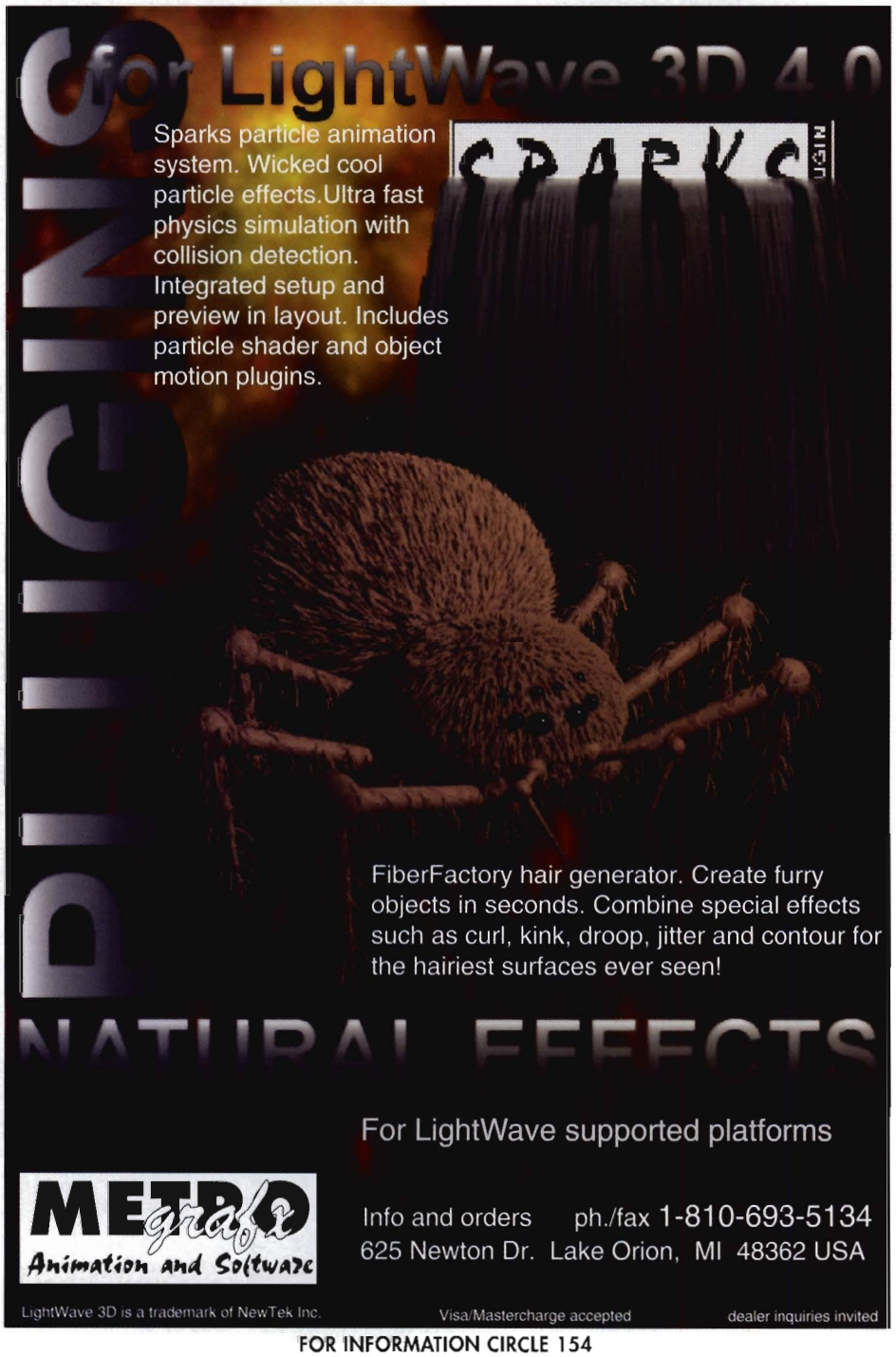
FOR INFORMATION CIRCLE 103

The JVC Edit-Desk System. Limits should be set on price, never on editing speed. For more information or for your nearest JVC dealer, just call **1-800-JVC-5825** and mention Product Code 123U

remove the cover from the computer before performing such modifications.

There are also occasions when problems arise from components other than the Flyer card that are affected by heat expansion. Socketed components, circuit boards and the connectors in which they are installed will expand to a certain degree when subjected to rising temperatures. Conversely, they will contract somewhat when they cool. This fluctuation can cause connections to become fragile and can result in intermittent performance. If the environment in which your Flyer is used has wide fluctuations in temperature, you might want to take steps to improve the situation, including covering the computer when storing it in colder climates and providing extra cooling in warmer temperatures.



FOR INFORMATION CIRCLE 154

Heat and Flyer Hard Drive Performance

The performance of your Flyer hard drives relative to their capacity to perform at peak performance is definitely affected by excessive heat. This is especially true when using the HQ-5 mode. A recent test performed by NewTek shows a performance increase of over 20 percent on drives that were exposed to open air in contrast to the same drives installed inside a computer casing with moderate-to-poor airflow in the drive bays. The key to proper cooling is airflow around the drives and the other computer components, but obviously the ambient temperature in the place where the Flyer system is operating is also important. In warm environments (in excess of 80 degrees), proper ventilation of the Flyer and its hard drives is vital to proper operation. Cooler ambient temperatures combined with proper ventilation will reduce or eliminate many problems and will increase the capabilities of the system dramatically.

Selecting Multiple Clips

To select multiple clip icons (or files and folders of any kind), hold down the Shift key while clicking your mouse pointer on successive items. This convention is used throughout many desktop operating systems, including Macintosh, Windows and Amiga Workbench. It's an especially useful shortcut when marking clips for auto split-edit sequences and when using the files/files view for moving or copying items.

Custom Startup Frames

It is possible to change the startup frame that appears each time you load the Flyer software. Create or copy your favorite Framestore (in my case it's a slate identifying my company) and move it into the Startup Frames folder located inside the Newtek \ Programs \ Switcher_

Support directory. Once you have placed the new Framestore in this folder, delete or rename the Framestore(s) that are named VT4000 or Video Toaster. You would then rename your favorite Framestore to VT4000 or Video Toaster. The next time your Flyer software is initialized, it will load this frame automatically. If no Framestore exists with one of the two valid names, the default Framestore showing split color bars will load instead. Another point to be aware of is that each time you install a new version of the Flyer software, it will probably overwrite the Framestore file you have placed in the Startup Frames folder, so keep a backup copy saved under another name.

Useful Flyer Add-Ons: The High Flyer

My Flyer system is installed in a desktop A4000, which, to say the least, is cramped for space. I looked into a couple of different options for expanding the system and opted for the High Flyer. The High Flyer uses the A4000's existing components, adds a power supply and a cooling fan, and extends the PC power slots. After the installation, I was able to place the internal boards (Flyer, TBCIV and Emplant) further apart and had plenty of room for the SCSI octopus cable. This new configuration also provides more room for ventilation and reduces the overall heat of the components in my system.

Flite Gear

Flite Gear is a software package that provides front-end control of many of the internal functions of the Flyer, which are normally available only via ARexx commands. Some of the product's more interesting features are VTR control and edit decision list processing, but there's a lot more in the way of capabilities offered in modules being announced all the time.

Those of you who are looking for the ultimate remote control device for playing Flyer clips will appreciate the Flite POD from Atomic Software (see the interview with Atomic's Harold Russell in February 1996's *VTU*). Flite POD provides familiar VTR transport controls and a convenient way to mark in/out points for your clips from its own distinct interface. Flite POD offers direct hardware support for the JL Cooper Media Control Station's transport controls, option keys and shuttle knob. Flite POD was shown at the 1995 *Video Toaster User* Expo with version 4.07 Flyer Software. I recently tested the software with the preliminary version of 4.1, and it appears to be fully functional. Expect Flite POD to begin shipping by the time you read this. Another Flite Gear-related product is Radar, the long-awaited "time line" for the Flyer. Look to the pages of *VTU* for a full review of this product as well as many other Flyer add-ons coming your way soon. VTU

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FOR INFORMATION CIRCLE 127

CYBERSPACE

Navigation Basics

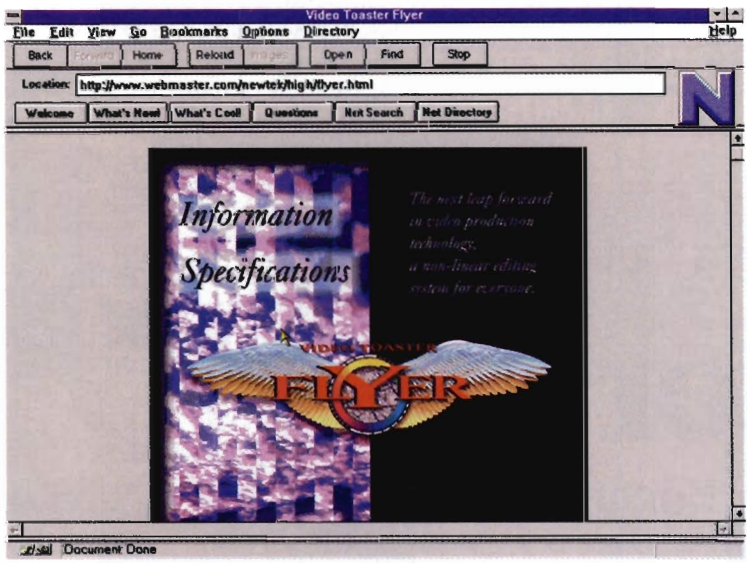
Join the On-line Revolution!

by Geoffrey Williams

It seems about time to get back to basics. I normally write about what to find in cyberspace, but let's take a moment to discuss *how* to find things while you're there. There's a lot of terminology that may be a little baffling to the uninitiated, so we'll start with the simplest of telecommunication concepts and move into the Internet's more advanced aspects.

The Basics

The first thing you need to get is a modem, which converts digital signals into audio signals that can be transmitted over a phone line. If you are using an Amiga instead of a PC, you'll need to get an external modem, which typically costs just a little more. Get a 28,800 BPS modem—they are available for under $200. Slower modems are available dirt cheap, but they are hardly a bargain. You'll pay a lot more for connect time and waste a great deal of your personal time with a slower modem.



The ease of creating a WWW page means that more companies and individuals are establishing a presence on the Internet. Here's NewTek's Web page @ www.newtek.com.

The next thing you'll need is software that controls the modem and handles the transmission of data. Very good ones are available as shareware products for both the Amiga and PC (see end of this article).

Now that you have a modem set up with telecommunications software, what do you do with it? The option with the least initial cost is to find a local computer-related publication (many communities have free ones) and look up the local Bulletin Board Service (BBS) numbers. Many BBS numbers are free, and will cost you nothing to access if they are local calls. This is an excellent way to start to learn how to use your modem at almost no cost. These local boards may not contain much of specific interest to you, but you can learn the basics of reading messages and downloading files.

If your modem is connected to your Amiga, you may have a hard time finding a local Amiga BBS. Fortunately, you can access any BBS just fine, the only limitation being that the downloadable programs cannot run on your Amiga. Even so, there are usually lots of text files, and you can download and read these as long as they are not compressed. These files will serve just fine to get your basic downloading practice in.

Most programs come in compressed form, with a single file containing all of the individual files that program might need. This compression makes it faster and easier to transmit programs over the phone line. The first thing you will need to download is a dearchiving utility. These typically come in self-extracting form, which means all you have to do is run them and they will automatically unpack themselves. On the Amiga, the most common types are lzh and lha. On the PC, you typically see ZIP and StuffIt. You can download Amiga programs on your PC and transfer them over to your Toaster system, but you must first dearchive them on the Toaster system using an Amiga-compatible dearchiver.

Services

There are a number of Toaster-supporting BBSs all across the country, but you may find that toll charges can add up even if you don't have to pay for access. Many pay services that support the Amiga and Video Toaster. Among them are GEnie, CompuServe and America Online.

GEnie has long supported the Amiga and has an interface version that is Amiga-compatible. Costs start at around $6 an hour in non-prime time, and some areas require the use of SprintNet, a service that can cost an additional $2 an hour. There is also a small monthly service fee. They can be reached at (800) 638-9636.

America Online is fast becoming one of the most popular services, primarily because of its ease of use and low cost, and it's provided many people easy access to the Internet. Because AOL users tend to be less knowledgeable than other Internet users, they have a bad reputation on the Internet for breaking the

rules and posting inappropriate messages. The monthly fee is $9.95, which includes five hours of connect time. Additional hours cost $2.95 each. The interface runs only on PC or Mac systems. AOL can be reached at (800) 893-6288.

CompuServe is often spelled Compu$erve on the nets because it's a very expensive service, though it has much to offer. You can reach CompuServe at (800) 848-8199. Fees vary depending upon what services you are using. By the way, I used Gopher on the Internet to track down these numbers and rates.

Many service providers give you just Internet access. They tend to be a lot cheaper—most charge just a monthly fee and not an additional per-hour rate like most of the big commercial services do. Again, a local computer publication is your best source for tracking down Internet providers with local phone numbers. You might also find a national list of them on your local BBS, which is a great source for local information. You can even try leaving a message asking about local Internet providers in one of the message areas.

There are three basic types of Internet access. Most commercial services such as America Online provide access with their own interfaces. They might not provide access to the entire Internet, though. A Unix account with an Internet provider, via a very simple text-based interface, gives you access to almost everything. A Web account gives you complete access to the World Wide Web (WWW), an interactive, graphics-based hypertext interface. Web accounts have been quite expensive compared to the inexpensive Unix accounts, but that is changing. In some areas you can get a Web account for just a little more than a Unix account, and access to the WWW opens up many more possibilities.

The Internet

It is well worth buying one of the endless Internet books available at any book store just to become familiar with some of the basics. I'll cover a few things here.

Whether you have a commercial service or an Internet provider, you will have an e-mail address that anyone using a service can send you mail at. Mine is gwilliam@netcom.com. The "com" tells you that it is a commercial service rather than a university or government service; the "netcom" part is the name of my service provider; and "gwilliam" is the name I chose. I use e-mail constantly, as I can instantaneously send and receive mail to or from anywhere in the world. It is quickly becoming the primary way I keep in touch with people.

There is a feature on the Internet called USENET, which consists of nearly 17,000 newsgroups, each one devoted to a specific topic. Of specific interest to Toaster users are the comp.graphics.apps.lightwave and the

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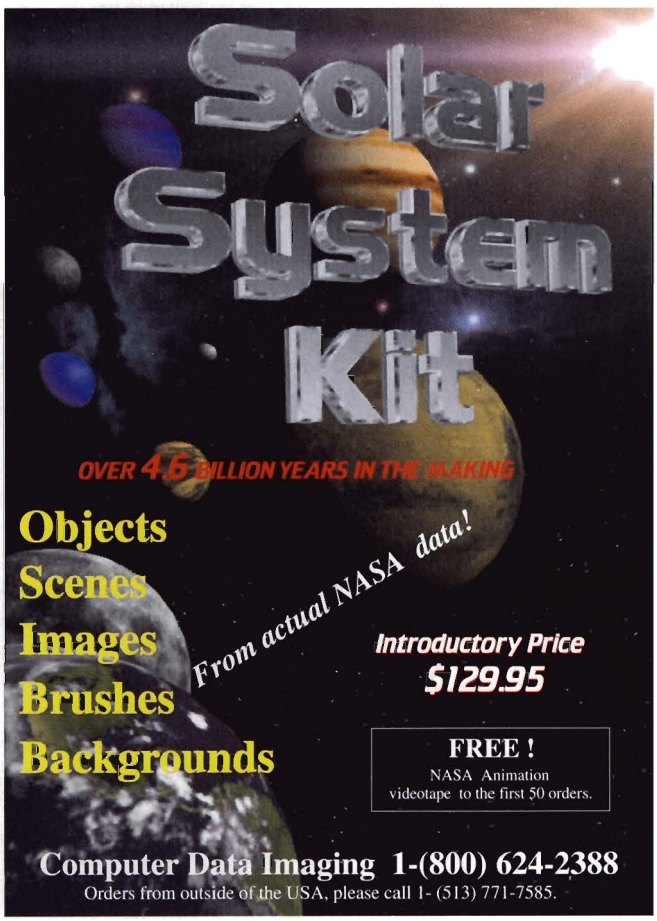


FOR INFORMATION CIRCLE 199

comp.graphics.packages.lightwave groups, along with many other groups dealing with video and computers. There are several topics concerning the Amiga. You can both read and write messages, and it's a great way to get questions answered and share information with people from around the world.

Another way to get mail on topics is through mail lists. People can post messages to the mail list, and those are sent along with the rest of your e-mail. To get on a mail list, you have to know the procedure to subscribe. Finding this information may take a little hunting.

One way to find information on the Internet is through the use of Gopher. This software lets you type in a key word and then searches the entire Internet for examples of it in titles. I used Gopher to search for the word "LightWave," and it returned a few seconds later with 40 references, many having to do with LightWave 3D. One of the listings directed me to a notice about the LightWave mailing list and how to subscribe. (Send an e-mail to lightwave-request@bobsbox.rent.com with the message "subscribe lightwave-l" and your e-mail address and real name.) There is also a Toaster mailing list with lots of information on the Toaster and Flyer. To subscribe, send e-mail to toaster@garcia.com saying "subscribe Toaster mail list." When you access one of the listings, you are actually reading that article from some remote computer that could be anywhere in the world. Using the keyword "toaster," I got back 175 references, almost all of them articles dealing with the Video Toaster. (*VTU*'s homepage is located at http://www.portal.com/~amg.)

You'll also want to download programs from the Internet, and there are two ways of doing this. The first is directly through e-mail or from the USENET messages. Because a binary program can be encoded so that it can be sent as a text file, you can e-mail a picture or any type of data to someone who then unencodes it. All you have to do is save the text to your hard drive and then use a uudecoder on it. It will automatically be reconverted back into its original form. There are sections on USENET with .bin in the newsgroup name, meaning that the messages contain uu-encoded data. Messages like this look like rows of random characters.

The other way to obtain files on the Internet is what is known as anonymous ftp. This stands for File Transfer Protocol, and is the standardized method of sending data files on the Internet. I have gotten a lot of e-mail asking how to do this, so here is a complete description of the process: The first thing you must do is connect to a ftp site by typing in the site address. One of my favorites is ftp.netnet.net. It's address is easy to remember, and the site is not so heavily trafficked that you can never get through. It is a mirror site of the Aminet, which means it has all of the files available on the main Aminet site (the main place to find Amiga files).

Once you access the site, it will ask for your user ID. You type the word "anonymous." A prompt will then ask for your password. Type in your e-mail address. That's all there is to accessing the site, and all anonymous ftp sites are accessed the same way. The following instructions are for UNIX access. You may have a graphics front end that makes this simpler.

Once in, type "cd pub/aminet" to get to the Aminet files. CD is the same as the AmigaDOS cd command, which changes directories. Type "get RECENT |more" to see a listing of the most recent Aminet files. "Get" is the command used for downloading, RECENT is the name of the text file (and the name is case-sensitive), and "|more" is the pipe command that sends the file to the more text reader to display on your screen. Without the |more command, the file would simply be downloaded to your host computer.

Using the cd and dir commands, you can see what files are listed. The cdup command takes you back up one directory level. Any text file can be read in the same way you did the RECENT file. Before you download a binary file (such as a program), type "bin". This sets the system for binary file transfer.

To download a file, type "get filename", where filename is the exact name of the file, including the proper upper and lower case. You can use wildcards using the mget command. Mget *.lha would list all of the files ending in .lha and prompt you as to which ones you want.

Once the files are downloaded, which only takes a few seconds even for huge files, you are not yet done. They have only been transferred to your service provider over high-speed lines (which is why it went so fast). You still need to transfer the files from your service provider to your computer. Each service provider gives you a directory for your use where such files will be stored with a simple method to download them.

The best way for Toaster users to access the World Wide Web is from a PC using a service provider and the provider's software. The Web presents graphics pages with links to other pages that can be accessed just by clicking on them. These other pages could be on computers thousands of miles away. One site that supports LightWave is "Discount Don's 3D Gallery" at http://www.portal. com/~donrh. It has LightWave animations done on the Amiga and interesting links to other computer graphic and miscellaneous sites. There are also real-time tutorials on LightWave for LightWave PC users.

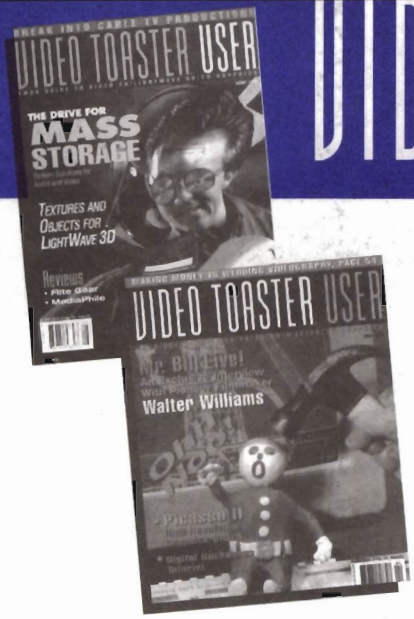
This month I have two disks available: the PC Modem Starter Kit and the Amiga Modem Starter Kit. Each provides you with the basic software, including a modem program, that you will need. Specify which one you would like and send $5 to Geoffrey Williams, Cyberspace Amiga-MSK (or PC-MSK) Disk Offer, 1833 Verdugo Vista Dr., Glendale, CA 91208.

VTU

Geoff's Favorite Stops in Cyberspace

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

FTP Internet site: **ftp.net.netnet?**
Mike's Video House:
(818) 240-1593
LightWave BBS: (510) 228-0886



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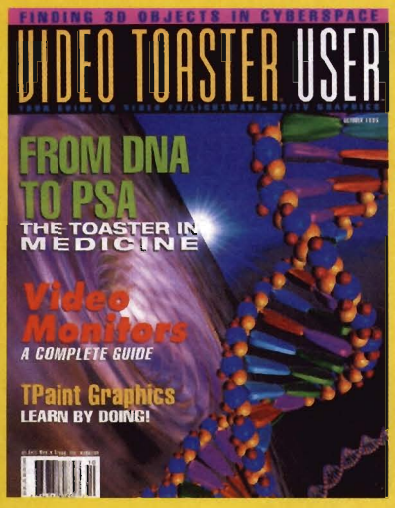

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TAMING THE WAVE

Interior Design

Building Real-World Environments

by Dan Ablan

It's so interesting the way things work. A few years ago, I remember waiting patiently for David Hopkins' *Taming the Wave* training series. David's articles over the past few years have helped me expand my horizons. Now, I'm excited to sit in for David this month, and pass on some knowledge to all of you.

One of the subjects that most intrigued me when reading the "Taming the Wave" column over the past few years was creating the interior of house.

Figure 1: The original source image.

This was the main thing that really got me interested in 3D animation. After years in video and all the hassles with tripods, with no money in the budget for a Steadicam, I was able to finally achieve the camera moves I'd always wanted to. When you create a virtual environment, you can fully control every angle, from any viewpoint, in any lighting condition. That's the beauty of 3D.

When building a room, most architectural engineers work from blueprints, or even better, AutoCAD files. It's the optimum way to work, especially if you need precise ratios to produce visual material for a builder or interior decorator. In our case, however, we're just going to improvise. You should know ahead of time what you're trying to accomplish, and perhaps sketch out a brief view of the room you plan to end up with.

The best way to wing it when building a room is to pull your face away from the computer screen and look around you. Why not build your office, home, or whatever room you happen to be in? All right, so maybe your office is not really worth working in, much less re-creating it in your computer. Fair enough. I've often picked up catalogs from drapery manufacturers or furniture stores, or even nice color ads in the Sunday paper. Visit your local bookstore and get a copy of *Architectural Digest*. Such publications have beautifully designed and decorated rooms that work fantastically as a template. Or, you can go one step further and buy a CD-ROM filled with images of home interiors. This way, you've got something to work toward; something that has detail you'd most likely overlook if you were building a room from memory. Details such as window moldings, floor trims, handles on cabinet doors, etc.

Figure 1 shows the color image we'll use. I chose an image that has good lighting and good depth, one that I felt I could easily re-create with LightWave. You should do the same. What I've made is a simple version of the room, just to give you an example of what I'm talking about. If this project were for a client, for instance, some of the objects in the room would need many more hours of modeling time.

The first step is constructing the room's walls in Modeler. When I first started using LightWave and wanted to build a room, I actually built one wall, then another, then another, then the floor, etc., and proceeded to line each one of them up to make a room. What an idiot I was. All I really had to do was build a box and flip (f) the polygons! Figure 2 shows the box (5 meters in size) with all polygons facing in.

Since there won't be enough time to go over every modeling detail for this project, we'll concentrate on a few details that can be tricky. The first is the mantel for the fireplace. Once I had the basic shape of the room and saved the object, I created a box roughly the size of the fireplace. With the room object in a foreground layer and the new box in a background layer, I used the Boolean subtract feature (Shift–b). This opens up the wall to add a space for the fireplace. Use the same procedure for the bay windows (Figure 1).

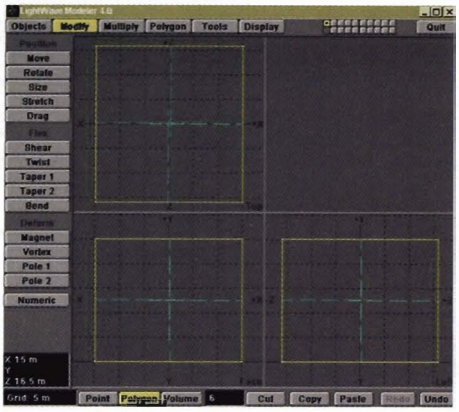

Figure 2: The basic 5 m box used to begin creating the room, with its surfaces facing in.

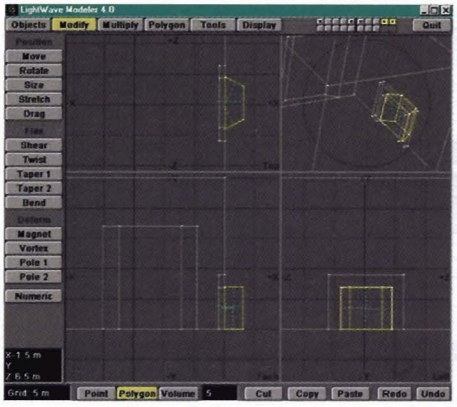

Figure 3: A five-sided polygon positioned for the fireplace.

The box I just used to cut the hole in the wall can also be used as the fireplace walls. Remember, the Boolean operation performed just cut a hole; we need to have something beyond the hole. Cut off the front polygon of the box and move the remaining five-sided polygon into place, as in Figure 3. Angle in the side walls of the fireplace by moving points to match the original, as in the real living room.

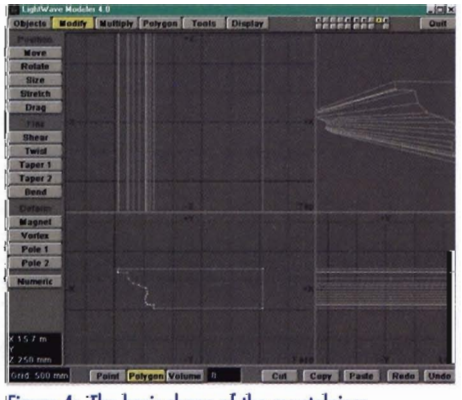

Figure 4: The basic shape of the mantelpiece.

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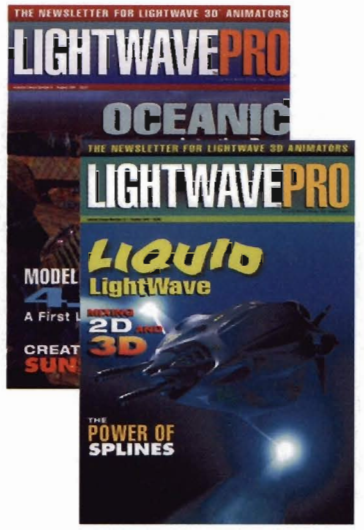

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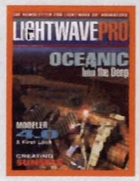

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The next part is to build the out tiling and woodwork for the fireplace area. These are as simple as making boxes and lining them up

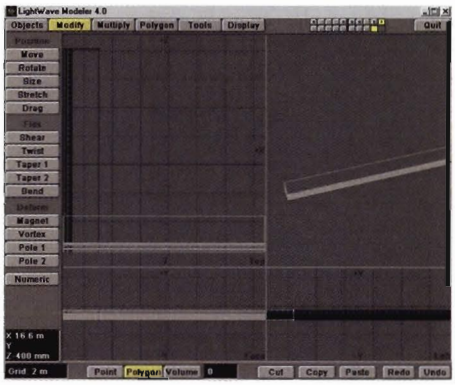

Figure 5: The intersected mantelpieces.

appropriately. (Which is exactly why it is so important to work from a picture, so you are aware of little details such as bevels in the mantel.) The very top of the fireplace, the actual mantel, can be created in a few different ways. The fastest I've come up with is this: simply point out the curve of the mantelpiece, as in Figure 4. Make sure you are building it in relation to the size of the room and fireplace. Use the room and fireplace as background layers, to help scale your mantel. Once you've created the points for the mantelpiece, hit (p) to make a polygon. Extrude this polygon the length of the fireplace and position it accordingly.

Your only problem now is that the sides are flat. In the original picture,

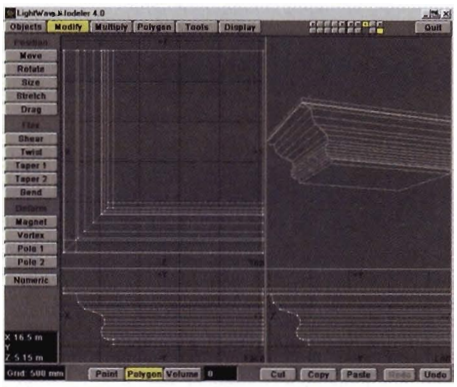

Figure 6: The corner mantelpiece after the Boolean operation.

the angled edge of the mantelpiece is on three sides, and we only have one side. After you save what you've already done, copy the extruded mantelpiece to another layer. From Modeler's top view, hit (e) to rotate this object 45 degrees. Intersect the edges to make a right angle, as in figure 5. Now, hit Shift–b to select the Boolean operations again, but this time, choose Intersect. You should end up with a corner mantelpiece (Figure 6). Now, mirror this piece onto itself and extend it the length of the fireplace by selecting all the points on one side, pulling those points on the Z-axis. With the rest of the fireplace in the background layer, line up the mantel and add it to the room. By now, you can see that re-creating even a simple room like the one we're doing can take a fair amount of time. The advantage to paying so much attention to the details, though, is that you'll have the ability to animate in any portion of the room.

Now is a good time to save what you've done, and load it into the layout area of LightWave. Without wasting time surfacing right now, move the camera into a decent view and render. Does it look like an all grayish-white room? Any black holes? If there are some black holes, like in the fireplace area, you probably have some polygons facing the wrong way. You can turn on Double Sided under the Surface panel to check; if there are, correct this problem by flipping the polygons in Modeler. Using the Double Sided option can bog down rendering time. Once the pieces of the fireplace are set, save the room object and move to another layer.

It's now time to make the moldings, or baseboards, that run along the bottom edge of the wall. These can be elaborate, with a few curves and different levels or an elongated beveled box. Using the room object as a background layer, draw out a box the size of the molding. Extrude it the length of the wall, in View. I chose to copy and paste this piece to another layer to make the angled moldings that run along the bay window walls. This way, the sizing is consistent. Once all pieces are sized, join them together and save as part of the room. Keep in mind that adding the baseboards with a Boolean union will help with rendering time. Since the baseboards are only a small portion of our room, this mentioned Boolean operation won't make much difference in rendering; the point is to get into the habit of modeling this way. If you do not use Boolean union for the baseboards, LightWave will render the wall behind the baseboard, and then draw the baseboard on top of it. Basically, you're rendering polygons that won't be seen.

"When you create a virtual environment, you can fully control every angle, from any viewpoint, in any lighting condition. That's the beauty of 3D."

To create the not-so-comfortable-looking furniture, I made a box with about four segments on the X and Y and performed two Metaform smoothing operations on it (Shift–d). For the sectional pieces that curve, just extend the length of the one sofa and bend about 30 degrees. The curtains are probably the most difficult part of the room to do realistically. I made the curtains by creating a curve with three folds. I then extruded that curve the length of the window and, using the Magnet tool, under the Modify menu, it was pulled down on the Y-axis to give it a curve. I used a smaller version of this curve for the narrow windows. The floor lamp in the scene is simply half of a ball attached to a bend tube, surfaced with a dull gold. The glass coffee table is 95 percent transparent, with a 20 percent ray-

traced reflection. The walls are set with only a color of off-white/tan. And finally, the carpet uses a fractal noise image map, along with a diffusion map of some rough rocks.

Although the curtains and sofas need some work, you can see that we've got a pretty good representation of the original image. The key to matching this or any other environment is the lighting. Since the photo we're working from is a public domain file, we can't be exactly sure of other lights in the room, besides the floor lamp, the plant lamp, and one from behind the camera. A spotlight with shadow maps was placed in the floor lamp, with a soft-edge angle equaling the cone angle, at 60 percent. The same light was cloned and placed behind the plant on the floor in the corner.

A general amber point light set for ray tracing was placed to the right and behind the camera. Ambient intensity is set to 12 percent. The ambient color of a beige/tan matches the lighting color, set just a bit darker. This may vary depending on your own interpretation, of course. From here, you can add whatever you like to the room—a dog lying on the rug, magazines on the table or whatever else you can think of. Such little additions will really add to your animation or 3D still. I added a fire to the fireplace and a reverse version of the picture frame above the fireplace.

Figure 7: The final 3D image, with its LightWave makeover.

My final image includes several objects that could have been improved with more time. The room and objects were built in about three hours. I cheated by only modeling one version of the sofas. Spending more time on this set would've allowed me to create better curtains and better furniture. In general though, LightWave lets you replicate just about any interior, in a short period of time.

I hope you got some ideas about real-world environments, and your interest has been piqued somewhat. LightWave is full of similar new business opportunities. Good luck!

VTU

Dan Ablan is president of LightWave-based AGA Digital Studios in Chicago, Ill. You can reach him at dma@mcs.com. David Hopkins is on vacation and will return next month!

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DR. TOASTER

The Doctor Is In!

VTRs, Memory and SCSI

by Dan Ablan

Since the first run of this column last month, I've had a great response! I'm receiving e-mail daily regarding topics from basic Video Toaster production to Amiga chip questions to LightWave rendering. John Gross has been forwarding your non-LightWave/Toaster-related questions over to me, so remember, send the LightWave Q&A to John Gross and all Video Toaster/Amiga production Q&A over to me. With that out of the way, let's get going!

This first question is something that three people have asked me about in the past couple of months, and ironically, it's something that I found the answer to last year. It's relevant to many Toaster production suites because it deals with the ever-familiar Panasonic 7750 S-VHS editing decks.

Q: In our studio, we've installed three Toaster editing suites over the past two years. We use Amilink as our editing controller, to A/B-Roll S-VHS decks, Panasonic 7750s. Our edits work fine and our audio sounds good. However, when we play the master tape back in a machine other than the 7750, our audio drops out. We can't figure it out! This also happens when we insert edit video over an existing audio track, after one edit has already been put down. Is this an Amilink problem?
Shane Walsh
Rembrant Studios
Stickney, IL

A: Thanks for the question, Shane. As I mentioned, I've experienced this stiuation myself, time and time again. I finally talked with a Panasonic rep last year who was able to tell me more than the tech support people. The problem turned out to be very simple. It stems from the way Panasonic technology uses the audio and video tracks when working with hi-fi sound. When shooting your video, record your audio in hi-fi. But, while most of us naturally proceed to record our audio when editing in hi-fi, you shouldn't record your final edit in hi-fi. There is a hi-fi switch on the deck that turns it on or off. Your source deck can be set to hi-fi, but not the record. If you're worried about the audio quality, Panasonic told me that if the original footage and the source are in hi-fi, the final edit will hold the quality. So, try that or upgrade your tape machines. The AG-DS550 (shown here) is cost-effective with lots of features. A BetacamSP deck is best.

The following set of questions comes from Jesse R. Yatckoske of Port Washington, WI:

Panasonic's AG-DS550 cost-effectively offers a new level of features.

Q: Is there any information currently available on possible performance differences with the Toaster depending upon what platform it is on (i.e., different Amiga models and IBM PC clones)? Specifically, do certain features work better, if at all, depending on the computer platform?

A: At the time this column was written, nothing has been publicly released describing performance differences between platforms. However, NewTek has done a great job of making the software virtually identical on all platforms. Performance, then, will come from the speed of the particular processor. When the PC Flyer is released, you'll be able to generate your own effects with the bundled LightWave software, which inevitably will provide better-quality wipes than the current existing Amiga Toaster wipes.

Q: Does software like SoftRam and RamDoubler work effectively for things like the Toaster and LightWave 3D? Would the programs be recommended for this type of computer work, or would it be better to just buy more RAM?

A: Typically, no RAM is as good as real RAM. Anytime you try and fake it, some area will suffer. Nevertheless, cost is always a factor. Currently, I have a Pentium 100 running both Windows NT and Windows 95. The system has 40 MB of RAM. I purchased RAM Doubler and cannot install it under Windows NT. It did, however, install under Windows 95, letting my system think it's working with 80 MB of RAM. When it comes to LightWave, I use NT, so the RAM Doubler is somewhat pointless. With the PC Toaster/Flyer, the same principles would apply. Real RAM is always the way to go.

Q: I have seen the current Flyer card advertised for a little over $3,000. If I bought the new Video Toaster bay and the Flyer, would I have to purchase the Flyer software for the PC separately, or would that come with the Toaster bay? Or would I be better off buying the new Video Toaster with the Flyer from the start?

A: I'm not sure if you're talking about the new PC Toaster or the Amiga version. If you purchased the Amiga version, you would have to buy the PC version separately. As far as buying it all from the start, I recommend it. But, it's not always necessary, or affordable. The new PC Toaster is made to have a Flyer card added at any time. If you have the cash to invest up front, go for it. If not, definitely start out with the Toaster, and learn the new interface, CG, TPaint and LightWave.

Q: I understand that the software for the Toaster, Toaster Flyer and LightWave is somewhat different for computers running different processors (e.g., Intel, DEC Alpha and MIPS). So if I were to buy something like a Raptor 3 workstation—which is processor independent, running Windows NT—would I have to purchase different software everytime I wanted to change processors? If I started on the low end with a MIPS R4600 processor and eventually went to an Alpha 21164, would I have to purchase all new software?

A: Well, it all depends on what type of work you're doing and what type of turnaround time you need. In my opinion, your best bet is to go with the Intel-based machines, for a number of reasons: (1) Their speed is pretty good. (2) Most software will run on Intel machines: Word programs, Internet software, LightWave, the new PC Toaster, Doom, etc. (3) It's affordable. If you just want a rendering powerhouse, go with the DEC Alpha. But, by spending a lot less and getting an Intel-based machine, you also have a full computer system to use for anything else.

The other thing to keep in mind is that if you go and spend $12,000 on a DEC Alpha, it may be out of date in a year. You've got to ask yourself if the type of work you're doing warrants such a system. You could spend just $6,000 and have two full blown Pentium systems.

Q: Since the new Video Toaster system needs an SCSI II port to plug into on its host computer, and I don't believe that most off-the-shelf PC clones come with the SCSI II port, what would you recommend as a good upgrade solution to SCSI II?

A: You can add a SCSI card to your PC for around $100. If you've got the money, I'd recommend it. It's nice for things like Bernoullis, SyQuests, ZIP drives, etc.

This industry is always changing. You, too, will have to change to keep current. It seems that many of you have system questions and are wondering where to go. It's always a good idea to not buy the best, most expensive system out there. By the same token, however, don't buy the cheapest one either. Don't wait to purchase a computer system. If you think a better one will be released in a few months, I've got news for you: you'll always be waiting. In 15 years, we'll all be using technology that hasn't even been invented. Keep waiting and you'll be left behind.

Thanks to all who sent in questions. Keep them coming. If you are not connected with an e-mail account, send to my attention, Dan Ablan, in care of Dr. Toaster, *VTU*, 1308 Orleans Drive, Sunnyvale, CA, 94089.

VTU

Dan Ablan is president of AGA Digital Studios in Chicago, Ill. He can be reached at dma@mcs.com or at VTU.

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SLICES

Looking Foward

Service, Shows and Sources

by James Hebert

In a previous column, I bemoaned the fact that there are too few quality textbooks that discuss video production in-depth. The situation hasn't changed, but there is hope.

Most volumes tend to gloss over certain material with sentences like "The waveform monitor and vectorscope are used to ensure that the video signal maintains the proper levels." Let's face it: nothing can be learned from this kind of description. It's about as useful as stating that the speedometer in your car can be used to monitor velocity on the road.

In the technical writing field, we refer to this phenomenon as the "place holder statement," which certain manual writers insert when they come across a feature whose function they cannot ascertain. They need to say something about it, but know that it will require further explanation later. Don't laugh, this happens. It's kind of the "I know that this does something, but I'm not sure what it is, so I'll put this here for now" boilerplate safety copy. The problem is, by virtue of the fact that some text resides in this space, that oftentimes no one truly reads the copy for accuracy before the docs go to press.

Hey, is anybody out there interested in telling me how to use this thing? You'd think that important information would be presented with equally important emphasis. The speedometer informs you how fast your car is going (in miles per hour). This number is important to know, and it had better be close to the posted speed limit, or (a) you're likely to receive a huge fine, or (b) you're likely to end up in the hospital.

With regard to good books on video, *Video Toaster User* reader Greg Mitchell came to my rescue. He contacted me via the Internet to say that he found the "*American Cinematographer* Video Manual" a resourceful guidebook that he referred to whenever he had a technical question. I immediately ordered the book, and I must say thank you to Greg. He's right, "ACVM" is one of the few texts worth picking up. It's a paperback-sized hardback, so it travels well in any field kit and can take quite a few knocks. I had the chance to meet Greg, and his copy was in pretty good shape (considering it was dusty, weather-beaten and slightly curved from his back pocket).

The "*American Cinematographer* Video Manual" was published in 1994, so it remains a fairly current volume. At that time, the transformation from analog to digital video technology was well underway. Although we are further along in this metamorphosis, the basics of the craft of video remain unaltered. To quote the introduction from the book, "Consistently fine images come from videographers who know and practice their craft."

"ACVM" is divided into three main sections: Video Basics, How-to and Supplements. The early chapters are written in layman's language. The supplements can be somewhat more technical, though most *VTU* readers should find themselves familiar with the topics covered. And while the introduction cautions that this is not an engineering manual, the How-to section's hands-on approach to using microphones, lighting a subject, using the waveform and vectorscope, and more are terrific. This section's easily the best value in the book. When time is of the essence and you need to know the information in a hurry, or if you've got an evening free and you want to bone up, turn to this book.

Show Roundup

In November, NewTek appeared at the *Video Toaster User* Expo in Los Angeles, COMDEX in Las Vegas and the *Digital Video* Expo in New York. It was a busy month, to say the least!

The highlight for me at the *Video Toaster User* Expo was Atomic Software's products for the Flyer. Harold Russell took the initiative and put together a variety of show-stopping software packages designed for the video editor who needs to get work done and is familiar with a traditional video editing environment. If you've been brought up with edit decision lists, timeline-based editing and hands-on jog/shuttle knobs, look into Atomic Software's products for the Toaster. They are well worth your time.

Speaking of time, I recently read a study comparing the benefits of non-linear video editing to traditional linear-based editing (Michael Rubin's book "Non-Linear"). The results of the study were surprising. Apparently, in all cases the non-linear editors were, in fact, faster at turning out basic edited material. However, it was found that non-linear editors actually spent about the same amount of time getting to the final cut as their traditional counterparts (the difference was that non-linear editors spent the extra time fine-tuning, tweaking and re-editing segments in ways that they described as more creative). Clearly, the non-linear method allows editors greater freedom to experiment with their ideas, create several different edits, try out other effects and more. If your competitor turns out three edited versions of a project for a client in the same time that you turn out one, for roughly the same cost, you may want to reconsider non-linear editing.

Very few people seem to understand a unique concept about the Flyer: If you buy one and use it in your Amiga today, you can upgrade it to the Amiga/PC version of the Flyer (the standalone box that works when

connected to either the Amiga or the PC) at a phenomenal savings (this is no hype). The Flyer that you plug into the Amiga today is the same card that you can plug into the standalone Toaster for Windows tomorrow. The Flyer was intentionally designed in this manner. The purpose was to allow Amiga owners who had invested in the Flyer a platform upgrade path using their existing technology, in case their Amiga hardware someday blew up (as computers do) and in case the Amiga was not coming back (as it appears to be, courtesy of Amiga Technologies). You can purchase the standalone Toaster for Windows minus its Flyer component, using the Flyer board from your Amiga instead. The cost of the standalone Toaster minus its Flyer card is substantially below that of the full Toaster for Windows. If you want to use your Flyer now and continue to use it from either the PC or the Amiga in the future, definitely look into this option.

At COMDEX, NewTek found that the majority of computer users in the PC marketplace (and Macintosh users as well, though by far the greater numbers belong to the PC clone owners) are thinking multimedia. This seems to take the form of audio/video capture cards, with a variety of quality levels from low-cost (small window, low frame rate, fewer colors) to higher-cost (bigger window, 30 frames-per-second frame rate, more colors) to highest-cost (full video frame size, 60 fields-per-second frame rate, full NTSC colors). Interestingly, the highest-cost items were usually options that you added to the high-cost products to achieve full broadcast specs. Even then, I have yet to see reviews of these products that substantiate any RS-170A claims they may make.

Due to my required presence at the NewTek booth, I was unable to visit the main floor. The show's producers saw fit to place NewTek in the multimedia hall at the Sands Convention Center, which, it turned out, was *the* hall to see. LightWave 3D drew consistently large crowds, alternating with demonstrations of the Flyer, which drew its own crowds. In both cases, the demonstrations that I led (and the ones that I viewed) focused on how easy it was to use the products. It was pretty slick editing an entire rock video in front of an audience of 50 people in the amount of time it took to play the song! I don't believe any edit system on the market today can match that feat. I saw a number of products on the show floor that performed one function or another very well (e.g., making 3D text, creating gradient blends or generating backgrounds for graphics), a fact I find amusing since Amiga owners have been doing this and more with the Toaster and Amiga applications for years. In fact, most of these new programs seem to be a subset of one function or another from LightWave 3D! Go figure.

Customer Disservice?

A recent column from a writer in another computer-video industry magazine caught my eye, especially since he mentioned NewTek prominently in the piece. While the author and the issue are not unimportant, I refrain from naming him here since I wish to pursue what I perceive to be a larger issue—customer service. At the same time, I believe there is a shouted warning embedded within this tale that we should *all* take heed of.

Here's the writer's story: His facility was broken into and a variety of equipment was stolen. Among the equipment taken was a Pentium PC and its LightWave 3D dongle. The author went on to describe with disturbing detail his difficulty in working with NewTek with regard to replacing the dongle. He was upset by his contact with NewTek's customer service and sales personnel. He did not receive a return phone call from a message left for a high-level NewTek official. Despite having a police report, witnesses, sales receipts, serial numbers, the original packaging, registration and more, he could not replace his stolen dongle at any cost except purchasing a new copy of LightWave.

There were two issues in this story that remain unanswered, to my mind. One, that a customer may have been mistreated, or at least felt that he had been mistreated. That is an issue that NewTek is handling, quickly and appropriately, without fail. The correct action should be based not only on NewTek policy but also on the specific situation. (Hey, he did own four copies of LightWave, after all.) What form should this leniency or consideration take? It is arguable, and not an argument that I can make successfully either way.

Two, and this should be shouted from the rooftops, you should be aware that your ownership of a product does not entitle you to special consideration should that product be stolen from you! If you buy a book in the airport book shop, read one-half of it, and then leave it on the airplane at your destination, does the publisher owe you a chance to repurchase the book at a discount? Does the bookseller? If your Ford automobile is stolen from your driveway, does Ford owe you anything? Could any company survive on this form of reasoning?

Therefore, good user, beware: If you base your business on the ownership and usage of a product, be it hardware or software, you need to make sure that your insurance covers the possible loss of this product, because the manufacturer can't, and won't. (Depending on your business, insurance company and policies, you may be covered by an existing policy or you may need to take out a special rider that you add to a current policy.) You cannot count on the manufacturer of any product to support you through a difficult time, no matter the circumstances. In this day and age of business, it's not just unrealistic. It's not possible. Be business-smart. Cover yourself.

However, you should be able to count on understanding (and maybe even a bit of sympathy) from the people who represent that company if you contact them with a story like the one above. You should be able to converse with them and not be made to feel like a criminal or an idiot. You should be able to leave messages and receive return phone calls from people in the company, especially highly placed executives (or at least their assistants). Because if you can't reach the people in charge, how can anyone tell them when their people are making mistakes?

Be persistent. Be persuasive. Be eloquent when it is called for. Be angry when it's necessary. Be appropriate, and always expect the best!

Be seeing you.

VTU

Market Your Video for MAXIMUM Profits!

by Barbara A. Bestini

In the December 1995 issue of *VTU*, we introduced you to Special-Interest Videos (SIVs) and the profit potential they offer independent video producers. We showed you how to enter into the SIV arena, and outlined 10 steps you could implement to immediately start producing, and profiting from, your own SIVs. This month we'd like to take you to the next step: marketing.

One of the biggest challenges facing independent SIV producers is learning how to market their productions. As producers, we're accustomed to creating a video and then letting someone else handle the marketing and distribution. Usually, when a client comes to us for a production, he already has an audience waiting for the video.

But when it comes to special-interest videos, we as producers must handle all aspects of marketing, as well as production. Without marketing, even the best video will stay on the shelf collecting dust. In this article, we'll show you ways to avoid that, and make sure your video has an eager audience awaiting its release.

Test Marketing

Before you can successfully market a video, you must answer two questions:

(1) Who are my customers?

(2) What do they want?

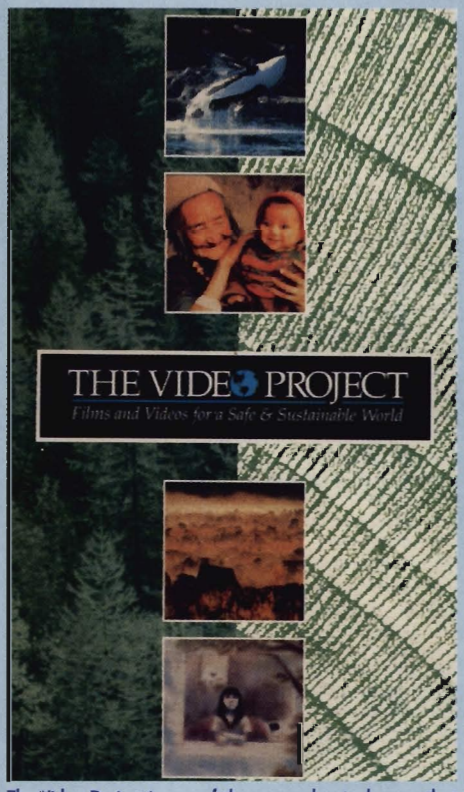
The answers to these questions are found through test marketing. Once you find your customers and know what they want, if you produce a video that satisfies those wants, they'll buy it. It's that simple. Test marketing is the first step in the production of any SIV. It ensures that there will be an audience for your product once it's produced. To be a successful SIV producer, you must first find your audience, then make the video. Otherwise, you risk producing a great video that no one wants to buy.

So how do you test market? Here's a simple formula that's easy to implement and very inexpensive. Once you come up with an idea for a video, write a brief outline of the major points it would cover if you were to produce it. Then write a paragraph or two expanding on each of these points. You should end up with about three to five typewritten pages. Congratulations! You've now written your first special report—the cornerstone of any test marketing campaign.

For maximum impact, your special report should include at least 10 bullets of information guiding readers through the report and keeping them interested enough to read it through to the end. But be careful not to give too much information. Remember, the purpose of this exercise is to find out if your video has an audience. Those who order your report are potential buyers of that video. If the report gives them too much information, it could leave them with a feeling they don't really need the video. Armed with this special report, you now begin placing classified ads for that report in the publications your target market is most likely to read. For example, let's say you want to produce a video that shows parents how to teach their children to swim. Your classified ad might look something like this:

"Powerful FREE report reveals how you can teach your child to swim in three easy lessons. Don't spend another dime on coaches or swimming lessons until you've read this FREE information. Call or write to: ABC Productions, etc."

If there's interest in the report, chances are your video has an audience. If, however, there's little interest in the report, there probably won't be any interest in a video about that topic. Usually, if you receive at least 50 requests for the report, it's safe to assume you've got a winner, and proceed with production of the video. If, however, test marketing shows there's little or no interest in your chosen topic, be thankful that you learned this information before spending time and money producing a video nobody wants.



The Video Project is one of the many clearinghouses that SIV producers can use as sales outlets for their projects.

Creating Your Marketing Plan

Assuming that test marketing indicates your video does indeed have an audience, your next step is to create a marketing plan that will outline all the methods you will use to advertise that video. These include classified ads, display ads, and direct mail.

Though it's impossible to address each one of these advertising media in detail here, we do want to offer you a few general suggestions you can apply to each of them to increase your chances of success.

First of all, don't try to advertise, market and sell to everyone. Instead, identify a specific segment of the market that makes up your best customers and target all your efforts toward reaching those people. All your advertising should stress the benefits viewers get from watching your video. They don't need your video, but what would make them *want* it? People don't buy what they need. They buy what they want. They may need a root canal, but they want a shiny, red Mercedes two-seater convertible.

Furthermore, people don't buy features, they buy benefits. They won't buy a video about teaching children to swim because you used Lightwave 3D to produce it. They'll buy it because it will show them how to do something that will ultimately save them money. Strive to make all your ads simple and direct. Get to the point and tell the reader exactly what it is you're selling. And, when writing your ads, always picture who it is you're addressing. Speak in a language they can relate to. For instance, an ad that's directed toward a 17-year-old high school student would be written very differently than one aimed at a 65-year-old retiree.

Avoid the temptation of being cute or funny if it's inappropriate for your particular audience. Too many producers make the mistake of thinking that they must write award winning ad copy for their ads to be effective. But your goal is not to win awards for your ads. Your goal is to sell videos. Any ad that doesn't do that is a failure, no matter how clever you think it may be.

Your ads should all contain an address and a phone number where customers can contact if they have any questions. When possible, use a live street address, and avoid using post office boxes in your ads. People are somewhat wary of sending money to a P.O. box that can't be traced. If you accept credit cards, that, too, should be stated in your ad. It gives customers a sense of security when ordering your video. And always offer a money-back guarantee, and state it on all your advertising.

When it comes to direct mail, all of these rules apply. Direct mail is one of the most expensive means of

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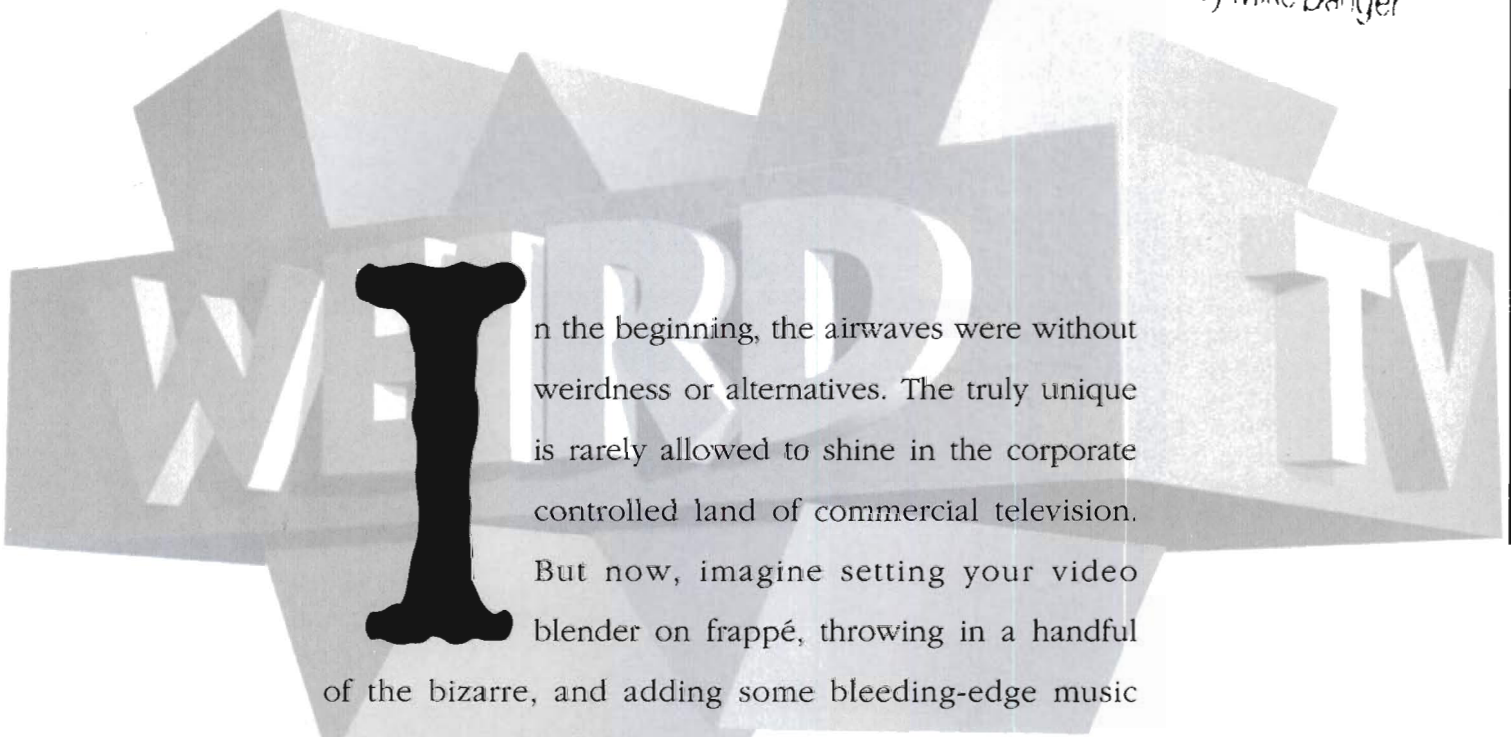
WEIRD TV: Paranormal Guerrilla Television

by Mike Danger



In the beginning, the airwaves were without weirdness or alternatives. The truly unique is rarely allowed to shine in the corporate controlled land of commercial television. But now, imagine setting your video blender on frappé, throwing in a handful of the bizarre, and adding some bleeding-edge music videos, a dash of the peculiar, and all the other things your mom warned you about and you end up with *Weird TV*: the first independent, nationally syndicated, underground show—ever. Peculiar phenomenon, the surreal, unreal, and avant-garde are just some of the ingredients of the show which offers an innovative, open look at the strangeness in America. The show is produced almost entirely with the Video Toaster, Toaster Flyer digital non-linear editing system and LightWave 3D.

Weird TV executive producer Todd Stevens was unsatisfied with the bland offerings on TV, prompting him to call on past associate Arthur Maturo (producer of the Sci-Fi Network's *Mysteries Beyond the Other Dominion*). Maturo, who is now an executive producer with the show, began working with Stevens on this labor of love in early 1994. The goal was to provide true alternative television by examining the bizarre and peculiar, and they've succeeded in creating a show unlike any other.

Meanwhile, Chuck Cirino, another executive producer of the series, was on a parallel course, searching the highways and byways of America for the strange as he produced his own TV series. Maturo hit Stevens with his concept of airing Cirino's and other bizarre shows via satellite transmission.

Francis (left) and his alter ego Buzz are billed as a "psychochemical puppet show." They enjoy living in a trash bin as part of a regular segment on the show.

Stevens saw this as an opportunity to bypass the normal corporate network executive mentality that deemed weirdness and alternative programming as "commercially unacceptable."

Filling another important spot on the *Weird TV* team is artist extraordinaire Paul Marshall. As *Weird TV*'s supervising producer and main editor, Marshall also conceptualizes and directs various segments on the show.

Marshall and the *Weird TV* team, along with the very capable Mark Stross of LA-based company Marmalade, hooked up to the Toaster and Flyer to produce a show that would cost a small fortune to produce otherwise. Stross, who is one of the early Flyer test pilots, knew that incorporating the video dynamic duo of the Flyer and LightWave into the editing bays at

Weird TV Central would deliver video excellence at a reasonable cost.

"The Flyer is very cost-effective, and the video output is superior to other editing systems, like the Avid

The *Weird TV* sharkmobile on patrol in southern California turns heads and helps promote the show.

system," said Stross. "The Toaster keeps us very competitive, and with a Y/C signal, Waveform monitor and Vectorscope, we can rival the quality of the 'big' shows." The cost of producing *Weird TV*'s entire season is less than the expense of one or two of the other shows they go up against in the weekly rating wars. "It's substantially lower—a fraction of what the other shows spend, where millions of dollars is the norm," added Maturo.

Low-Cost Quality

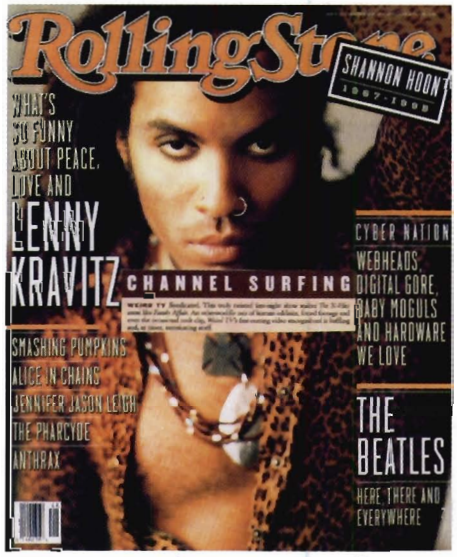
The two editing suites feature Amiga 4000s with stock 040 accelerators and 16 MB of Fast RAM, Video Toaster 4000 boards and the Flyer NLE system. The Tower enclosures hold the massive hard drives available for production with several 9 GB Seagate Elite AV drives and others. Add to this configuration a Y/C Plus card for capturing the best video resolution possible. "By staying with a Y/C signal path, we are able to provide

The silver shark car visits various locations around the country and is the new home of "The Comfort Zone."

great resolution and buy ourselves two to three generations in post-production," asserted Stross. If you have ever watched *Weird TV*, you may have noticed the Toaster's ChromaFX, great graphics and some very crisp and effective LightWave 3D animations. Industrial Betacam SP video decks are used for laying down the Flyerized footage to tape.

Another fact about the show that's truly amazing: It's shot on a relatively low-cost, three-chip Hi-8 camera. Perhaps you thought that you had to spend mega-millions to broadcast a television show of this quality, but that's just not the case.

"*Weird TV* is a fascinating look at the wonderful world of the bizarre! It's the home for the surreal and the offbeat," said Cirino, who is one of the creators responsible for the look and feel of the show. From the start, *Weird TV* established its own style with MTV-ish quick cuts, wild ChromaFX and an irreverent rock-and-roll adult attitude. Some of the slogans cut into the show include "*Weird TV*—leaving a dark brown stain where

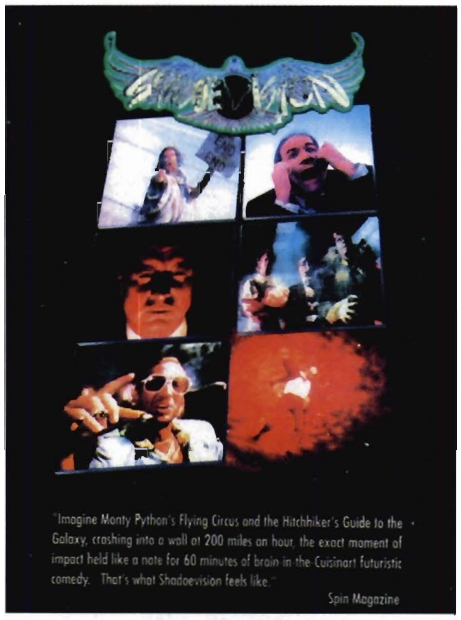


Receiving national recognition in *Rolling Stone* (November 1995) and other publications helps the show hit new heights.

your brain used to be!" and "Strap in and leave the channel changing to us!"

Onward!

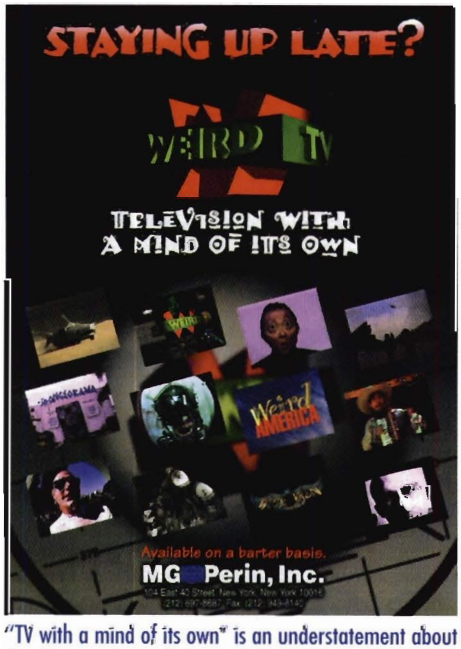
Weird TV made its domestic broadcast satellite debut on July 11, 1994, and the show has rapidly grown to over 30 television markets. The show's producers have recently signed agreements with mega-distributor MG Perin Inc. for U.S. distribution and UnaPix for overseas broadcast. *Weird TV* is also now offering home video



A promo piece and possible ad for the show's popular "ShadoeVision" segment with Shadoe Stevens.

releases of some of the show's highlights. "We are very excited to be doing 26 more episodes in 1996," said Marshall. "Successful syndication both domestically and in overseas markets is also beginning to happen. We're now seen in Chile and Thailand, for example, and more stations in the U.S. are considering airing *Weird TV*."

With more story lines than your average soap opera, watching *Weird TV* is really an experience. You'll see everything from potato cannons bazooka-ing their vegetable masses to car hunting in the



"TV with a mind of its own" is an understatement about the show. It's fun, adult, innovative and...*weird!*

desert to what weird America leaves behind at the local no-tell motel. All of this insanity is presented to the music of the extremely out-there band Cake.

The hosts also unleash their own brand of savvy. One saucy tidbit is "Weird America," produced by Panama hat-wearing Cirino. He leads us through America's back roads, unveiling what this country is really doing. "If it isn't a neo-pagan ritual or a tour through the sponge-o-rama museum its something equally strange. 'Weird America' reveals it all!" he said. Viewers consider Cirino, who delivers his monologue while driving in his vehicle, the Charles Kuralt of *Weird TV* minus the Winnebago motor home.

Cirino's also the producer/director of the "ShadoeVision" segment of the show, hosted by Shadoe Stevens. You may remember Shadoe from the *Dave's World* TV sitcom and as the host of *American Top 40* radio countdown show. His segment offers its own brand of excitement, which includes corporate conspiracy laced with mind-blowing effects and illusion.

There's also "The Dr. Reuhl Show" (yes, he is a doctor and he does play one on TV). Hosted by Dr. Franklin Reuhl, a noted phenomenologist, this segment of *Weird TV* keeps the world in touch with cases of strange phenomena such as ESP, ghosts and one-of-a-kind inventions.

The "Weird Fiction" part of the show is brought to you by Paul Marshall. His brand of intriguing excitement features such characters as Hogman of "Hogman's Pork and Bean Emporium." And don't miss Video Dave's "UFO Clip of the Week" where host Dave Aaron examines the most recent sightings from all around the world, relayed from his secretly located fortress. Video Dave's "UFO Clearing House" has also been spotlighted on such national shows as *Sightings* and *Encounters*.

The next piece is called "Weird TV Theater." It contains twisted and unusual video clips submitted from viewers all over the world. This venue provides a good place to send those unique animations that are cluttering up your hard drive. "Submit your video's today—we're always looking for new and interesting footage," said Marshall. (If you're interested in submitting your material, please see address and phone number at the end of this article). Last, but not least, is "Weird News." Downlinked from the Reuters News Service, the latest unusual news is collected from all over the world. My bet is that you'll never see any of these clips on the local evening news.

The War

Recently, the *Weird TV* team has marched headfirst into the ratings wars. They have not heeded any warnings, tackling some thirty television markets, including San Francisco, Seattle, Chicago and Houston by using unorthodox promotions and relying on word of mouth and channel surfers. Their biggest test has been the shark-infested waters in their hometown of Hollywood. "The support from LA viewers has been awesome, and it's all been from word of mouth," said Maturo.

Their advertising strategy has been to drive the streets of Los Angeles in a Shark-mobile to attack the competition head on by spreading word of the show. This and a lot of hard work have garnered them a spot on L.A.'s KCOP-TV in the time slot adjacent to NBC's *Saturday Night Live*. With their never-say-die attitude, these guys recently scored a 1.6 overnight (6 share) in their ratings, beating out a big budget lead-in show called *Nightstand*. What else is in store for the *Weird TV* crew? You can bet these visionary entrepreneurs are gearing up to wreak havoc in New York and other major markets.

What's hard to decide is if the guys from *Weird TV* are geniuses or just insane for tackling the tough TV markets in such an unorthodox manner. One thing, for sure, is that the combined effort of all involved along with the Flyer, LightWave 3D and Video Toaster will continue to push the boundaries of normalcy. What the success and quality of *Weird TV* again points out is that it's now possible for you or I, with our limited equipment, to put on a professional television show of our very own. These guys have shown us how to shatter the high-cost barrier of broadcast TV production.

For those of you lucky enough to experience *Weird TV* in your area, be sure to catch it. If you're not sure where it's playing currently, check your local listings. Or better yet, call your local TV stations and proclaim, "I want my *Weird TV*!"

To contact the show, call or write:
Weird TV
P.O. Box 5900
Glendale, CA 91221-5900
1-800-4-WEIRD TV

VTU

Mike Danger owns Rockasaurus Productions in Pensacola, Fla. He can be reached at (904) 469-1001.

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Circle 051	Circle 052	Circle 053

ChromaFX

The Video Toaster's Unsung Hero

by Joe Clasen and Susan Ishida

In the great tradition of comic book superheroes, there are high-profile heroes and heroes of lesser fame. For every Superman, Batman or the Incredible Hulk, there is an Ultraman, a Plastic Man, an Aqua Lad. In that galaxy we call the Video Toaster, we have LightWave battling evil each week on NBC and saving the planet valiantly on UPN. Not surprisingly, a lesser-known crime-fighter, hidden in its own Fortress of Solitude (actually, in the Setup panel) has gone largely unnoticed. We're talking, of course, about ChromaFX. For those of you who think ChromaFX can be garish, psychedelic and headache-inducing, well, *some* of the effects are. In all fairness, though, they have their useful places in music videos, cheesy horror and sci-fi projects, and other places where "subdued" is a bad word.

But if you think that's all ChromaFX has to offer, you've been reading too many comic books!

Faster Than a Speeding Bullet

ChromaFX is a fast and easy way to correct color, brightness and contrast problems with existing video. Not that an experienced superhero like CameraMan would forget to white balance, but accidents do happen. Perhaps you were shooting outdoors and high clouds suddenly turned your warm yellow light a chilly blue. Perhaps you were forced to do battle with your old archenemy, Fluorescent Lighting. Fear not. ChromaFX will come to your rescue.

Let's start by fixing some footage suffering from "washed out" color. True, there's no better cure than prevention, but sometimes sayings like that just make you want to incinerate someone with your laser vision. For whatever reason, the footage looks bad and you need to fix it in a flash.

First, you'll want to have a three-monitor setup with Control, Preview and Program monitors. Your Preview monitor will be necessary to view the Color Table Control panel in full color. By glancing between the Preview and the Program monitors, you'll be able to compare your color-corrected images with the uncorrected images. Have your source images on Input One. This might be a TBC-corrected video source, a live camera, laser disc or a live-broadcast video feed. If you're not familiar with the ChromaFX screen, this might be a good time to drag out the Toaster manual and refer to the screen shown on page four of the ChromaFX chapter.

Here's a frame from a video of nachos that needs some help.

And here's those nachos after the frame was processed with ChromaFX.

From the Switcher, press the Setup button, which will take you to the Toaster Setup screen. Select ChromaFX, and you will be magically transported to the ChromaFX screen. (The ChromaFX screen contains many colorful boxes and cryptic icons, many of which we will not be fully explaining here. For an in-depth discussion of ChromaFX, again, we refer you to that fine piece of literature we like to call *The Video Toaster Manual.*) In the upper left corner of the ChromaFX screen, you'll find the Effects Selection Control panel. The first thing to notice here is a small box containing the number of the effect you have selected and a long box showing a brief descriptive name of that effect. There are 100 preset ChromaFX you can choose from and, if you wish, modify and save. Beware, though—when you save, you save *over* the existing effect. So choose wisely. If you wish to undo a modification, press Restore Original.

Now let's fix that pale, lifeless footage. In the small box, scroll to or type "08" and you should see Contrast appear in the long box. Press the first of the four Effects Preset buttons and "08" should appear in the box directly below it. Now scroll to or type "09" (Brightness). Click on the second Preset button. Finally, scroll to or type "10" (Gamma) and click Preset number 3. Make sure that on the Chroma Control panel (the two triangle icon buttons at the top right of your screen), the right button is selected. This retains the color of your image while the left button turns your image black and white. Now press the Setup button and, from Setup, return to the Switcher. (If you're still using Toaster 1.0, you can simply select Switcher.) Now select whichever bank your ChromaFX croutons are located in. Press the crouton for ChromaFX Preset 1 to bring up effect 08 (Contrast). Hit Return and this effect will be applied to the image on your program monitor. You can adjust the amount of correction with the T-bar while referring to your Preview monitor to see how much of a difference you're creating. Repeat this process with Preset 2 for Brightness and Preset 3 for Gamma. Gamma is particularly good for restoring faded colors. Achieving the desired look is a matter of trial and error.

When you're happy with the look of your color-corrected image, you can roll your videotape and record the corrected footage. You can even make real-time adjustments using the T-bar, though this will require practice and familiarity with your footage. If you have two Toasters, you can use one to handle the color correction and the other for CG and the Switcher. Want to save those settings? When you quit from the Toaster, your last Switcher Preset settings will be saved and reloaded the next time you bring up the Toaster. Unfortunately, saving a Project will not save your Preset settings within the Project. If you have arrangements of ChromaFX Presets you use often, you may want to write them down so you can restore them manually.

Images and footage with overexposed highlights are easily corrected in ChromaFX.

More Powerful Than a Locomotive

ChromaFX can be set up to battle a wide variety of video evils and colorshift crimes. Here's a powerful setup that will let you rescue poorly white-balanced footage. The procedure is similar to our previous setup for fixing washed-out colors. Send your timebase-corrected video (or other source material) through the Toaster. Return to the ChromaFX screen and scroll to or type "59", the Daylight effect and press Preset number one. Repeat to select "60" (Tungsten) for Preset 2, "61" (Fluorescent) for Preset 3 and "62" (Red) for Preset 4. Now return to the Switcher and your ChromaFX croutons.

ChromaFX's Moonlight filter can make any picture a nighttime shot.

Color correction is based on a

few simple rules of color theory. Don't worry, it's not rocket science. Basically, you want to counteract an offending color shift by adding the complementary (opposite) color. Blue/Orange, Red/Green and Yellow/Blue are sets of complementary colors. If the video you're correcting looks too yellowish to orange, select Preset 1 (Daylight), which compensates by adding a filter of slightly purplish blue. Again, experiment by sliding the T-bar to see how this effects the image on your Program monitor as compared with the original version on your Preview monitor. For video that's too cold (blue to purple) looking, try Preset 2 (Tungsten) which provides a warm yellow filter. If fluorescent light has caused an unflattering yellowish-green tinge, counteract it with Preset 3 (Fluorescent), a purple filter. Faces still look a touch too green? Try Preset 4 (Red).

How you configure your ChromaFX Presets depends entirely on the type of corrections you need to make. Even with 100 Presets, you may need to make one of your own or modify an existing effect. To do so, start with an effect that's close to the one you want. Let's use Moonlight. Shooting by real moonlight is generally inadvisable even for a superhero. You'll probably want to use bright lighting and a photographic filter to simulate a nighttime look. Luckily, it's never too late to add that starry night quality. Let's select and apply effect 67, Moonlight. It does look like nighttime, but without X-Ray vision, it's a little hard to see anything. Maybe what we want is a more theatrical version of moonlight.

Returning to the ChromaFX screen, we have the Moonlight effect selected. In the lower left quarter of the screen is the Color Table Control panel. The large box in the center of this panel shows how the chroma effect is created. The effect is basically made up of two horizontal gradients, black to white on top and black to greyish blue on the bottom. There is also a top-to-bottom gradient. The bottom (black-to-blue) gradient is the one we want to modify. Clicking the bottom arrow beside the gradient box

The Sepia effect works well with old photos and helps add a warm "glow" to any image.

selects the bottom gradient and places it above in the Color Strip. By clicking the blue-grey box on the right side of the Color Strip, we can modify that color with the sliders. A numeric display would come in handy now, but we can eyeball the color to brighten the blue. Now we'll commit it to one of our Presets and go back to the Switcher to try it out. Success! Our video now looks like a nighttime scene. We can even use the T-bar to make the sun rise and set. Try that, Superman!

Using ChromaFX for color correcting can result in some loss of contrast. To avoid this reduction, take a look at the color gradient box in the Color Table Control panel. Make a point of noticing how various effects are set up and what the resulting effect is. It is often possible to modify an effect to increase or decrease gamma or brightness while *also* applying a color filter. A little experimentation will go a long way.

Able to Leap Tall Buildings

ChromaFX has powers far beyond mere color correction. One of our favorites is the "vintage film" look. This feature combines the SepiaTone ChromaFX with the Old Film Loop Switcher effect to simulate the look of antique footage. Besides being an interesting effect, this process can also help save nearly unusable footage, turn bad camera work to your advantage and create continuity from chaos. Here's how. Select ChromaFX 07 (SepiaTone) as one of your Presets. Go to the Switcher, select the SepiaTone effect and hit Return. Using the T-bar, adjust the level however you wish. Now select the Old Film Loop crouton from the Switcher. You'll see a small triangle appear in the upper left corner of your ChromaFX crouton. Press the space bar and both ChromaFX and the Old Film effect will be enabled.

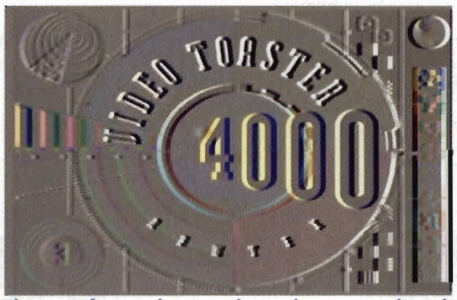
The next time you're handed a stack of family photos in various stages of disrepair—or the dreaded Super8 home videos transferred to VHS tape to edit into a seamless, heartwarming family heirloom—consider this effect. SepiaTone forgives all. Different lighting in each shot? No problem. Uncle Bob's camera work a little shaky? Once antiqued, it becomes part of the charming effect. Photos look static and out of place next to the video clips? Point your video camera at the photo and go in for a slow zoom. Bathed in sepia, all these disparate elements just seem to flow together. There are a number of variations of this effect that you might try to produce different looks. SepiaTone combined with a little Marble Grain fade, one of the Switcher's organic wipes, produces an interesting painterly texture.

With access to two Toasters, you can achieve some truly unique effects. Here, we've combined an oil paint filter and the Toaster organic wipe.

The SepiaTone effects are particularly appropriate for nostalgic subjects like baby pictures and old home movies. They can also be used to suggest old memories, dream sequences, flashbacks, etc. There are some fun ways to transition in and out of these sequences, using the Switcher to "wipe" the SepiaTone in or out. For a soft, dreamlike transition, try the Wavy fade set at medium or slow. Have the same source material on both inputs and the SepiaTone ChromaFX selected. The fade will "swirl" the sepia tint onto or off of your picture. Two dramatic transitions are the Drip and the Paint Brush Across wipes.

Again, start with the same image on both inputs and SepiaTone activated. Use the Drip wipe to create the look of full colorization "dripping" onto the sepia footage. Paint Brush Across looks like color is being painted onto the sepia image. Both are particularly dynamic when used to transition from SepiaTone to full color.

Another interesting way to use ChromaFX is to produce embossed-looking video. We've all embossed still images using Art Department Professional or Alpha Paint, but grabbing hundreds of frames of moving video and applying an emboss filter on them one by one would be pretty time-consuming, right? Not for mighty ChromaFX. First, in the ChromaFX screen, load in effect 26 (Fade to Neg.) and select it for Preset 1. In the Switcher, select Preset 1 and press Return. Pull the T-bar all the way down. Select the Smooth Fade effect from the Switcher and a small triangle should appear in the Preset 1 crouton. Gradually adjust the T-bar until the color fades out and the image appears embossed. Now



This is a frame showing the embossing trick with ChromaFX. (We used two Toasters: one to framegrab, one to process.)

you have instant, real-time embossed video. Like all embosses, this works best on high-contrast images with large, distinguishable shapes. You might use this effect to emphasize certain dramatic moments: a handshake to close an important deal, an award winner triumphantly holding up a trophy, or a wedding toast.

To Infinity and Beyond

Can ChromaFX shoot your video, render your spaceships and save the universe? Probably not. But it can enhance your work, improve the quality of your images and save you a lot of time and grief. In real life, there are plenty of emergency situations and all too few superheroes to rescue you. Deadlines and budgets don't always allow you to reshoot or rerender and only the big superheroes have access to a Harry. Luckily, all loyal Toaster users have a powerful ally in ChromaFX. Is it perfect? No. But it's the fastest, easiest and most accessible way to fix a legion of superproblems. While some heroes bask in limelight and others retreat into shadows, ChromaFX is always ready to color-correct either situation. See you in the funny papers.

VTU

E-mail Joe Clasen and Susan Ishida at SurfrJoe@Deltanet.com or Susan3Diva@aol.com. Watch for their new Joe's Desktop Bar & Grill Website.

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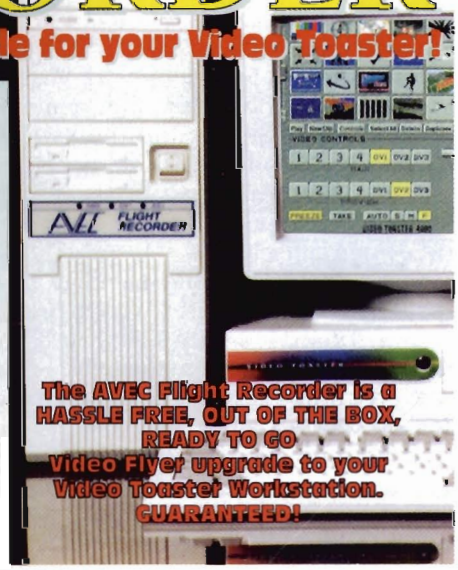

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FOR INFORMATION CIRCLE 107

Wipe Studio

Design Your Own Transitions!

by Dick De Jong

Do you remember the first time you saw those banks of Toaster effects? I do. After my first impression of "Wow!", I thought, "In what virtual reality am I going to use falling sheep in a video production?" I also recall the first time I showed the Toaster to my partner. We were cruising the croutons when she pointed to a silhouette. "What's that one?" I punched it, and Kiki went cartwheeling across the screen. I quickly showed her "Mr. Clean," which didn't really impress her.

Since that moment, I've been looking for a good software package for creating Toaster wipes. I found one in Wipe Studio 1.0 from Dimension Technologies, the same people who produce Composite Studio and the *Club Toaster* CD-ROM. Wipe Studio is one of those deceptively simple programs that performs most of the grunt work in assembling wipes, leaving you free to flex your creative wipe design muscles.

The basic Wipe Studio package gives you the tools to produce simple matte wipes (e.g., Kiki cartwheeling) and soft-edged wipes. If you own an Amiga 4000, you can also do color wipes. Wipe Studio is a standalone program for Toaster users. You don't need any other software except the Toaster to build your effects.

If you purchase the extra Power Module, you can produce overlay wipes and ILBMs (more on this type later). The Power Module also lets you render the color wipes in 256 colors and adds a transparency tool.

Using framegrabs from live video, ILBM images or 3D objects from LightWave, you can create a wide variety of wipes and give your video a one-of-a-kind look.

The process of creating wipes in Wipe Studio is straightforward. In less than an hour after I installed the software, I was able to make a simple matte wipe of a logo sweeping across the screen, pushing the program video off the screen and dragging the preview video in its wake. I knew right then and there that I had found a great tool to add value to my next client's video. Of course, I also realized it usually would take longer than an hour to make a wipe that I felt comfortable selling to a client.

To better understand Wipe Studio's features, let me take you through the steps of creating a matte wipe. In my simple logo effect, I wanted the letters MMA to come from offscreen on the right and move off the screen on the left. In the transition, the video on the preview bus in the Switcher would follow the logo and

replace the video on the program bus.

The first step in making any of the wipes is to create an animation. You could use a 2D program like DPaint or Brilliance, but I used LightWave 3D. The trick to a matte wipe is indicating what is program, preview and matte. The differentiation is made by color. What's red in the animation is read as program, green is preview and black is matte.

With that in mind, I went into Modeler, stacked and offset the letters and then gave them a surface named "matte". Next, I created a polygon whose left edge followed the diagonal of the letters with the right edge squared off in the distance. I moved that polygon just behind the letters and called its surface "preview".

I imported the object into Layout and made a 60-frame scene of it moving across the screen. I set the appropriate matte and preview colors and made the background color of my program red. With Wipe Studio, you can render IFFs in either low or medium resolution, but you need to set antialiasing to off. If you've been following along, you can see how the preview polygon covers up the program background as the letters move.

After rendering, I opened up Wipe Studio and loaded the palette helper. This feature compiles the frames into a Rend24 animation, and it also creates a crouton for your effects bank. You can choose to make either Toaster 3.1 or 4.0 effects. Compiling the animation on an Amiga 4000 only takes a few minutes.

I went to the main module and compiled the wipe from the animation. After a minute or two of hyperactive screen flashing, the wipe was completed. Because I made a 3.1 wipe, I needed to go to the project editor to add the wipe to a project. The project editor is great for creating new projects with only the wipes that you want. You can pick and choose from newly created and existing wipes and then rearrange them on banks (no more Kiki and her beefy boyfriends and no more eyestrain scanning those cluttered effects banks for that "I know it's in here" transition).

I saved my new project and went back to the Toaster. I loaded the project containing my new MMA effect, clicked on that custom crouton, and watched two years of waiting for this program disappear in

The program's interface is powerful and easy to understand. Video Toaster users will feel right at home.

seconds. Images of tailor-made transitions went spinning in my head.

It's probably easiest to describe the other types of wipes by referring to Toaster 3.1 effects. The soft-edge wipe works with 16 levels of gray—the "heart soft out" effect is a good exam-

Wipe Studio on an Amiga 4000 allows users to make full-color transitions.

ple. The color wipe tool works similarly to the matte, but it lets you compile your 3D animations in 128 colors. Remember, to be able to use the color wipes, you need an Amiga 4000.

If you have the Power Module, you can compile 256 color wipes. You can also produce color overlays like "wedding bells" or the "atom." Another nice feature—a transparency tool—adds shadows to your animations that are transparent to the program.

The ILBM wipe was one that had to be explained to me. The 3.1 effect called "Kiki Face" is an example of an ILBM wipe. Double-click on it and you'll see a grayscale portrait of Kiki appear and disappear as the transition occurs. This Power Module effect does not use an animation. Instead, you must create a 256 grayscale image. To do this, Dimension Technology suggests using a program like ADPro or ImageFX. The Toaster then takes the IFF and using grayscale, it performs a transparency ramp between the preview and program. These alpha wipes are an unusual effect and can be set to variable speeds in the Toaster Switcher.

Wipe Studio comes with clear and simple tutorials for every wipe. They even include sample scenes and IFFs so you can make your first wipes without constructing and rendering an animation. If you're like me, you'll want to start creating your own wipes right away.

The one drawback to the package is its inability to compile antialiased animations. Even though most wipes happen fairly quickly, any jaggies will not really be noticeable. Other than that, Wipe Studio with the Power Module offers a complete package for making wipe transitions. The program even includes a feature that will convert 3.1 wipes into 4.0 wipes.

By giving you the power to custom design wipes to your clients demands and your own creative visions, Wipe Studio will be become an indispensable tool in your video productions. Kiki may be turning over in her frame, but Toaster effects will never be the same!

VTU

Dick De Jong is an associate in MultiMedia Associates, a video production and animation studio in Austin, Tex. His e-mail address is mma@eden.com.

Company mentioned:
Dimension Technologies
(Wipe Studio 1.0—$199.95)
2800 W. 21st St.
Erie, PA
(800) 525-2203

EDITORIAL EVALUATION

Circle number on Reader Service Card
I found this article:

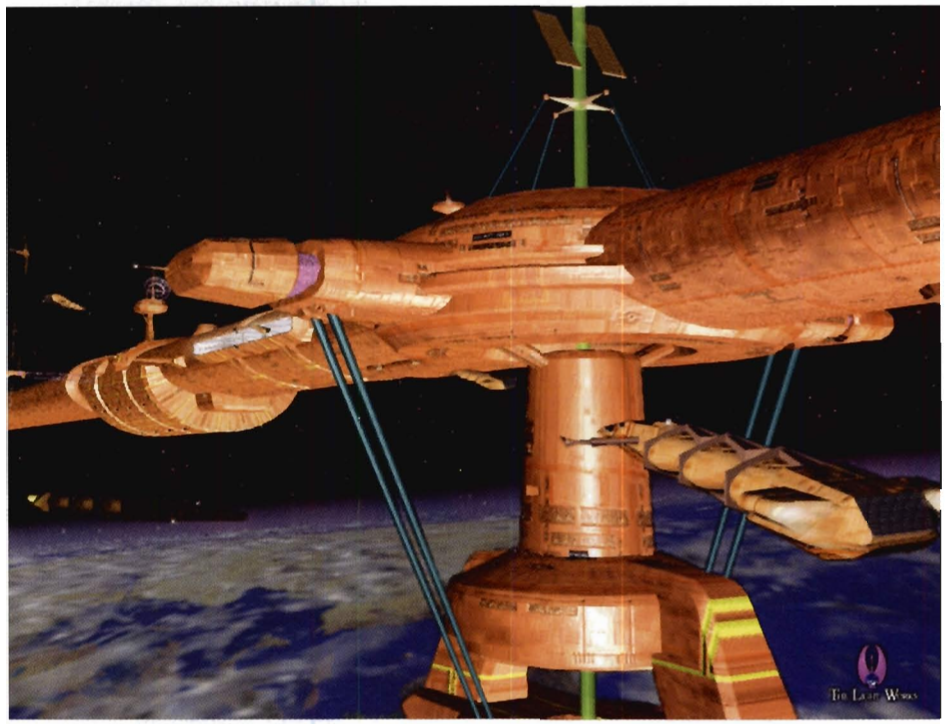
Very Useful	Useful	Not Useful
Circle 057	Circle 058	Circle 059

The Light Works CD-ROM

Space Mavens, This Is It!

by Daniel J. Barrett

Outer space fans, this is your CD-ROM! From Amiga Library Services, the distributor of the Aminet CD-ROM series, comes the Light Works, a disc devoted to Amiga graphic images and 3D object data, most of which have a space theme. The disc's 524 MB are divided into two major categories. Approximately 200 MB is devoted to the artwork of Tobias J. Richter of Germany, who specializes in spaceships from classic science-fiction TV shows and movies. Another 300 MB is devoted to images and 3D objects from the public domain. Also included are demo versions of two commercial raytracing programs—Reflections and Cinema 4D—that you can use to manipulate the objects. The freeware image viewer ViewTek lets you (in eight different versions for popular graphics cards) view the hundreds of images on this disc. One very nice feature is that you are not forced to use ViewTek. By defining some system variables, you can replace the supplied viewers with one of your own, even when accessing the CD-ROM from the Workbench.



The Light Works CD-ROM is filled with gorgeous images that come in a wide variety of image formats. Some objects and images can't be used commercially—others are royalty-free.

A Richter Set

Tobias Richter's objects are highly detailed re-creations of familiar spaceships from *Star Wars* (X-Wings, Tie Fighters, the Millenium Falcon, the Death Star and more); *Star Trek* (including three versions of the *Enterprise* from the original TV show, the movies, and *The Next Generation*), *Deep Space Nine*, some German science-fiction shows (like *Orion II*), and other sources of inspiration. Objects appear in three different proprietary formats for the Imagine, Reflections and Cinema 4D software programs. Note that these objects are *not* public domain (PD); you can use them freely on your Amiga, but you can't redistribute them or use them commercially without permission.

To illustrate how these images can be used, over 100 finished images are provided. Each image comes in five file formats: HAM, HAM8, GIF, and 8- and 24-bit IFF. Folks, these visuals are *stunning*. I've seen tons of Amiga images over the years, but these are far and away the best space-related scenes I've encountered. Even in 8-bit GIF format, the detail is highly visible and impressive. The disc also includes approximately 35 animations in HAM8 format that show off how Richter's objects look in motion. Again, the quality is exceptional. A handful of animations are provided in HAM format, so owners of non-AGA Amigas can also have a look.

Other images not related to the 3D object files are included as well, inspired by *Blade Runner*, *Tron*, *seaQuest DSV*, *Babylon 5* and *Battlestar Galactica*, and most of them are equally fabulous. In addition to objects and images, Richter also provides background textures. My favorites are the numerous starfields of varying densities and color schemes, and they contain a variety of celestial objects, not just ordinary stars. Richter includes some subtle effects, like hazy, dark purple areas against the black background, that add an extra dimension of realism. I'll admit that I am confused, however, by the *Star Trek* and *Star Wars* textures. I suspect that they are textures Richter used for small pieces of his ship objects,

but as they are undocumented, I can't be sure. In addition to the space-related items, there are also some Commodore logos and pictures of Amiga ports.

PD Pics

The PD section of the disc contains images, background textures, animations and more 3D object data. These images come from about 35 different sources and are of varying quality (mostly good to excellent). These include better-known Amiga artists like Guardian (science-fiction themes, many inspired by the movie *Aliens*), Bill Graham (gorgeous abstract creatures and scenes), and some talented unknowns. Many of these are freely available on the Internet, but when you consider how long it would take you to download all that graphics data, the price of this disc becomes more attractive. The background textures are very practical, though they vary in quality, and include the usual wood, metal, stone, fiber and other materials, plus some abstract patterns. All textures appear in GIF, 8-bit IFF, and IFF 24 formats. The animations on the CD are almost entirely from well-known Eric Schwartz cartoons, with a few others sprinkled in (including Juggler, the first raytraced Amiga animation). Finally, the 3D objects are devoted to space, computers, animals and human anatomy. Note that they are *not* related to the PD images.

Cosmic Complaints

Even though the images are impressive, the disc itself could use some improvement. First of all, the English documentation is very skimpy. In several of the drawers that contain both English and German README files, the English file is empty.The Cinema 4D and Reflections demo programs are also entirely in German. Even the installation scripts are German, so it isn't obvious what effect the installation will have on your Amiga. I was able to execute Cinema 4D from the CD-ROM and muddle through it a bit, but Reflections appears to require a hard disk installation before it will work.

I had problems using this disc from Workbench. Numerous drawers in the PD section have no icons at all, and there is no documentation to tell you this. And, some of the Richter drawers are set up to view files by name, not by icon, which is very wasteful of chip RAM (300K to view the contents of one drawer, compared to 70K for icon viewing). Since the disc is read-only, you can't change and snapshot the viewing mode.

I also had several problems viewing images. First, I tried to define my own viewing program using an environment variable, but the documentation doesn't mention that you must specify the full pathname of your viewing program (e.g., Work:C/MyViewer), not just the program name (MyViewer). Second, your defined viewer works only for the Richter images, not for the PD images, another fact not mentioned in the documentation. Third, the supplied ViewTek program produced Enforcer hits (meaning some level of incompatibilty after each animation. Though this is not Schatztruhe's fault (since the program is freeware), it is disappointing.

Overall, this disc provides outstanding space-related objects and images. The PD section is a bit jumbled, but at least the data is of good quality. Overall, I recommend it for space fans and 3D artists who need excellent outer space imagery. VTU

The *Star Wars* images are, naturally, just for fun. Richter's 3D images and animations are very well-made.

Company mentioned:
Amiga Library Services
610 N. Alma School Road, Ste. 18
Chandler, AZ 85224
(800) 804-0833

Product information:
(The Light Works CD-ROM (US list price unknown; German list price 79DM) Stefan Ossowski's Schatztruhe
All Amigas
WB 2.x/3.x compatible.
Not copy-protected.
Accelerator-compatible.
Minimum system: CD-ROM drive, 1 MB RAM, AmigaDOS 2.0 or later.
Recommended system: graphics card, 4+ MB RAM, hard drive, accelerator.

Daniel Barrett is currently pursuing a Ph.D. in computer science at the University of Massachusetts. E-mail him at barrett@cs.umass.edu.

EDITORIAL EVALUATION

Circle number on Reader Service Card
I found this article:

Very Useful	Useful	Not Useful
Circle 060	Circle 061	Circle 062

Timely Tutorial Tapes

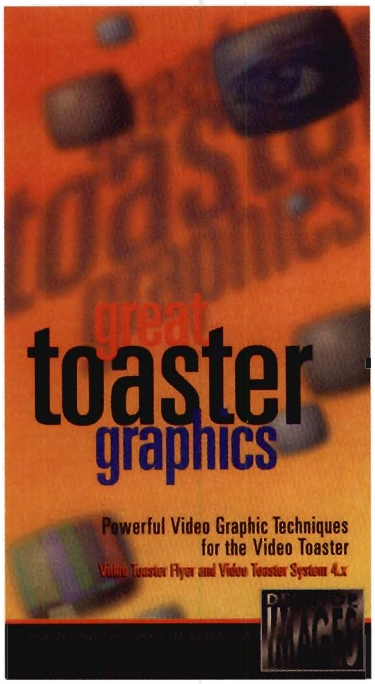
Creating Great Graphics and Spaceships

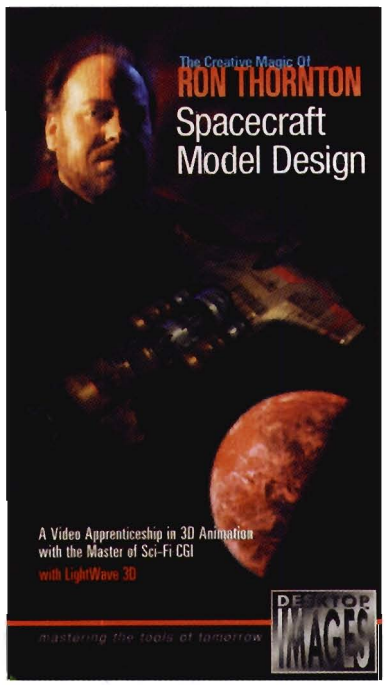
by Doug Johnson

I've recently had the opportunity to view two of the tapes from Desktop Images, namely, *The Creative Magic of Ron Thornton: Spacecraft Model Design* and *Great Toaster Graphics* with Bob Anderson.

Ron Thornton is the president of Foundation Imaging, the people who brought us the Emmy-award-winning effects for *Babylon 5*. Some of Thornton's credits include *Terminator 2*, *The Addams Family*, *Captain Power*, *Dr. Who* and others.

The packaging of *Spacecraft Model Design* bills the tape as a private lesson in 3D modeling. My first impression was that the tape was not so much of a private lesson but of a private audience with a special effects wizard. I say this because Thornton doesn't actively teach what he's doing; instead, he works and we watch. He does spend time explaining what he's doing, but he speaks more like a colleague than an instructor. The format is similar to many other Desktop Images tapes, where the host discusses what he's doing either to camera while we view screenshots of his work. Thornton makes no assumptions about the skill level of the viewer—he uses the tools he needs to accomplish his task. In this respect, I wouldn't recommend this particular tape for beginners, unless they have a strong basis in Modeler. Beginners may get some good ideas, but the material covered in the tape can be overwhelming.





Great Toaster Graphics and *Spacecraft Model Design* are just two of the many training tapes available from Desktop Images, a division of RAVE Video Productions. The company also produces instructional music tapes.

The other Desktop Images tapes are an excellent resource for a beginner. They spend time stepping through each of the tools in Modeler and Layout, (depending on the tape), showing practical uses for each of them. I'd recommend the Ron Thornton series to anyone who's been modeling and animating for awhile and has a good understanding of LightWave's modeling tools. For these intermediate animators, *Spacecraft Model Design* will be far more understandable. Now, this is not to say the tape isn't useful—it's packed with little tips and tricks that Thornton uses to design and model quickly and efficiently. All through the presentation, he stresses the importance of being efficient while modeling.

The tape begins with a minute of animations, showing the type of amazing work Thornton and Foundation Imaging create. The clips range from space scenes to warehouse indoor scenes, and there are even some pretty believable organic jungle scenes and some cool compositing of animation over live video. The clips really give you a feel for the style that Thornton is going to be demonstrating. These spectacular clips made me anxious to start modeling as soon as possible, and that's exactly what he does.

After a quick hello and introduction, we're off and running for the next 120 minutes. Starting very abstractly, the ship Thornton's designing very quickly begins to take shape, gaining detail as he works his magic. I think what impressed me the most about this demonstration was to watch him do in two hours what would have taken me all day, if not longer. Also, I found myself reassured when he did model using some of the same techniques I do, letting me know that, sometimes, there are no shortcuts.

Thornton stresses how to use basic shapes (boxes, tubes and cylinders) to make complex-looking objects.

There were times when he would say what he was going to do next, and I would try to anticipate how he would accomplish it. I'd be thinking up complicated answers using four different tools, three layers and several surfaces, and he'd do it with two mouse clicks. He demonstrates how to modify these basic shapes, sometimes slightly, sometimes dramatically. The resulting effect is that the objects not only appear more complex, but they shade properly and reflect light in a more dramatic and realistic manner. One of the tools Thornton touches on is the use of Metaform. I've always found Metaform to be a tricky and unpredictable tool, often generating far more polygons than I want to create the look I'm after. He explains how to use Metaform in a manner that's manageable and reasonably predictable.

One of the areas of the tape that I did find disappointing was the lack of philosophy mixed with the science. Thornton spends 90 percent of his time working on the model and only 10 percent talking about why he's doing it the way he is. With one of the finest special effects guys around, I would have liked to have learned a little more about his background. He gives some really good hints about the use of details and then leaves the viewer hanging, wishing he would say more about why those details work. Obviously the effects look good, but if I understand the theory behind it, then I can apply that theory to other instances more effectively. It would have been nice if he had spent a little more time talking about how he works, where he gets his ideas, and how to unify an idea and a final product.

The format of *Spacecraft Model Design* is a bit different from the other tutorial tapes. The Desktop Images Modeling and Layout tapes follow a very specific format: The host talks about a tool, uses the tool and then shows what the tool did. However, Thornton isn't teaching the use of any specific tool, so the format is much more free-form. He jumps right in and begins laying down points. One of the points he makes is that a great deal of modeling is done by improvisation. By improving on and adding to basic shapes, details begin to look like something that really works.

I come from a broadcast/industrial television background. My company has a Toaster Flyer editing suite and two graphics stations, a Mac for Photoshop and After Effects-type work, and an Amiga 2000 with a Toaster, which is on wheels for remote productions and graphic display. The animations I typically work on are flying logos and show-open animations.

We've never attempted to break into the game/spaceship market because so many other people are specializing in it. Having said that, I was sure that *Spacecraft Model Design* wouldn't be all that useful to me in the type of work I do. I couldn't have been more wrong. This tape has given me a fresh perspective on new ways to look at objects and model design, not just spacecraft design. I received some really useful tips on doing flying logos far more efficiently, especially in terms of surfacing and minimizing waste while creating complex objects.

Spacecraft Model Design: "This tape has given me a fresh perspective on new ways to look at objects and model design..."

Great Toaster Graphics: "The tips Anderson gives are strong, real-world tips."

The tape ends as Thornton shows the completed, unsurfaced ship. Though he spent plenty of time giving objects surface names and showing how to efficiently manage all the surfaces on a model, he doesn't surface any of it. That demonstration appears in a second tape, *The Creative Magic of Ron Thornton: Spacecraft Surfacing Techniques*, in which Thornton surfaces a model created using Layout and Photoshop.

Great Toaster Graphics, hosted by Bob Anderson, is like many other training tapes I've seen, possibly because Anderson is a Video Toaster trainer. The packaging includes a VCR counter number reference guide that allows you to quickly scan through the tape. Also, the beginning of each subject is keyed with the subject title in a fairly large font. This makes it easy to see when your shuttling through the subjects.

Great Toaster Graphics is far more lesson-oriented than *Spacecraft Model Design*. Anderson covers many of the tools in ToasterPaint and ToasterCG. He even gives a *very* basic tutorial of using LightWave 3D for graphics. This tape is definitely for a beginner, or someone who needs help figuring out what to do with all the Toaster tools he's learned. The pace is quick, and the fact that Anderson is a professional trainer really shows through. He takes time telling the viewer what he's about to do, emphasizing of keyboard shortcuts. His descriptions are usually clear and concise, making it easy to follow along.

In ToasterPaint, Anderson gives some really helpful pointers for generating graphic elements and styles. He starts with elements of design, talking about what looks good and where to find inspiration for new looks. This is one area where both video hosts really seem to be in sync. Both tapes encourage borrowing from ideas that you see in the real world. Thornton talks about emulating designs of real aircraft and machinery, and Anderson gets a lot of inspiration from broadcast television—both very good points. How many times have you sat in front of a blank screen, trying to develop something new? It's far easier to borrow from other ideas and modify, and (hopefully) improve on them.

The tips Anderson gives in *Great Toaster Graphics* are strong, real-world tips. They're pointers you can

continued on page 71

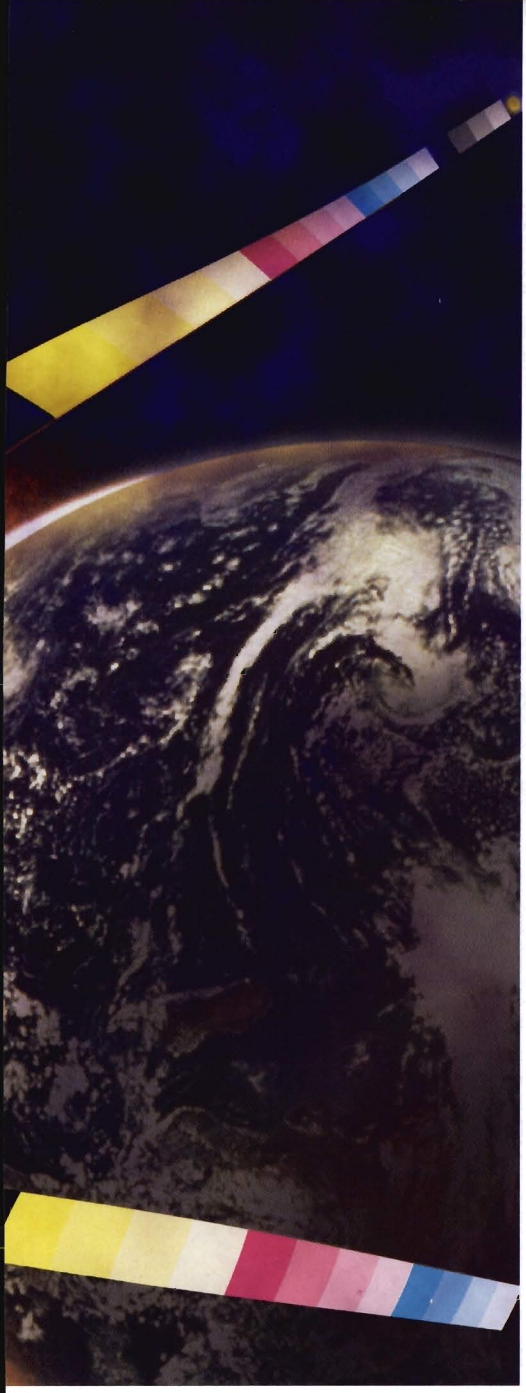
Video to PRINT

Entering the World of Print Publishing

When a client needs a 30-second animated spot to be delivered in a week on betacamsp tape for dubbing, most animators know where to turn—LightWave and the Video Toaster. But when the project also calls for a full-page print ad, what do you do? Don't worry—if you know how to create images for video, you have almost all of the information you need to enter the world of print.

At FryeAllen Advertising, the designers use LightWave and the Video Toaster every day for both video and print. Many times, the same graphics, models and scene files created for television spots are used for related print campaigns. Although there is a lot of crossover between print and video, there are also some very important differences—things that we have learned the hard way.

by Bruce Branit and Brian Cowen
FryeAllen Advertising, Inc.



Color images are printed using a technique referred to as four-color process. Overlaying the halftone images of cyan, magenta, yellow and black (CMYK), a full-color reproduction is possible. These halftones consist of tiny dots lined up at specific angles for each color. Look closely at the image on the cover of this magazine, a newspaper ad or even an ink-jet printer's output, and you will see this pattern (see Figure 1). These dots are laid out on a regular grid, and changes in image brightness are achieved by varying the size of the individual dots. Digital image files are separated into CMYK and are output as a set of four film negatives. An intense light source is then shown though each negative to expose an aluminum plate, etching the design on the surface. Printers then use these plates to apply the ink to paper, as with the very pages you are reading.

Whether it's a basic graphic produced with Toaster Paint or Toaster CG, or a high-res frame from a LightWave animation, the Toaster is capable of producing state-of-the-art images. In TPaint or Toaster CG it's as simple as creating the image and saving it out as an IFF24. Although these images are limited to 752 x 480 pixels to begin with, You can use ImageFX , Photoshop (by transporting the image to a Mac or PC) or any other paint program to convert the image into a CMYK TIFF file or to create color separations for printing. Because of our needs and the program's ability to easily create complex razor-sharp images, we use LightWave for much of out initial graphics work. It takes a little longer but the results are worth it!

The single greatest factor for a finely reproduced image is resolution. The image must be rendered large enough so it will not become pixelated or blocky when printed. There are five set resolutions in LightWave 4.0 and custom sizes up to 8,000 x 8,000 pixels. If you are rendering an image to be used in a 5-inch x 5-inch ad, how big should you render it?

To understand how the size of the image will affect its final output, the term, lines per inch (lpi), must be discussed. Lines per inch is the measurement for the density of the halftone dots (and thus the sharpness of the image). This number represents the number of lines or rows of halftone dots per inch. A magazine page is printed at 133 to 200 lpi, while a newspaper image is printed at only 65 or 85 lpi. Don't confuse the term lpi with dots per inch or dpi. A laser printer might output at 300, or even 600 dpi, but this is a measurement of resolution for *solid* black output, *not* halftone frequency. Most files used in print are output as high as 2,450 dpi.

How should this lpi and resolution information factor into your animation frame render? Because the size of each halftone dot is mathematically averaged out of your digital image, you should plan for at least two pixels for every halftone dot in your file. For a 5-inch x 5-inch image at 133 lpi, multiply 133 lpi by 5 inches high. This gives you a total of 665 halftone dots

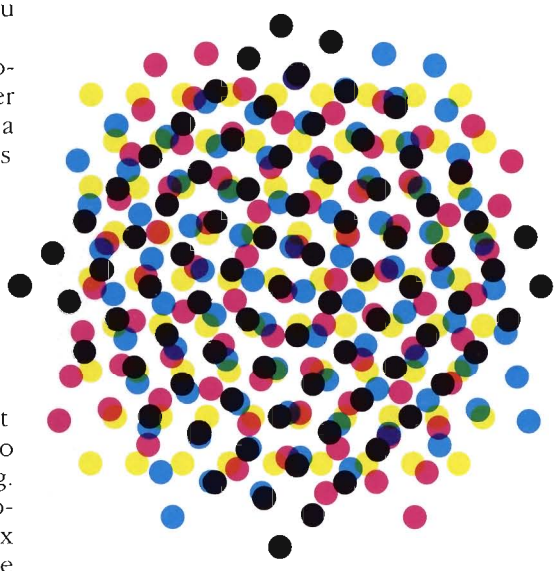


Figure 1: The dot pattern for four-color process printing. Each color is angled differently: Cyan 105°, Magenta 75°, Yellow 90° and Black 45°.

across your image. Double that to ensure pixel integrity and you get an optimal image size of 1,330 x 1,330 pixels (see Figure 2). Choose the resolution setting in LightWave that is closest to this or enter pixel dimensions as a custom size. It's always better to render the image too large to begin with rather than too small. You can always

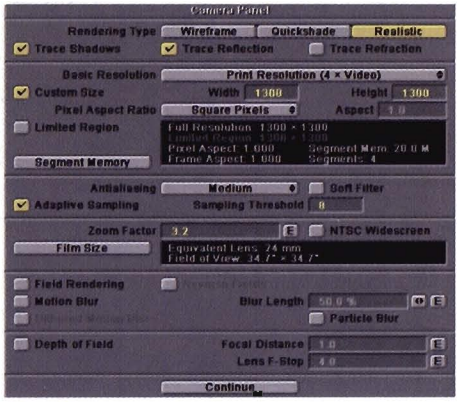


Figure 2

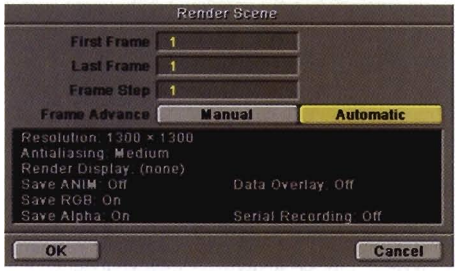
reduce it, or crop it down later in a paint program such as TPaint, ImageFX or Photoshop.

Although screen flicker is not a problem in print, sawtooths and jaggies still are, so use at least a Medium setting for antialiasing. Don't worry that the rendered image may be so large it cannot be entirely displayed on your screen, it is the actual saved file we are interested in.

The renders can get long, and the files pretty large, in a hurry. Be sure you have plenty of VRAM set aside and enough disk space to store these monsters. A full-color, full-page image can be as large as 30 MB. If memory prohibits a render, select overlapping sections of limited regions in the image and render them separately. Stitch them together later with an image-editing program. They will mesh perfectly.

There are a few things to keep in mind when rendering such large, detailed files. Because the resolution is so high, your models must be tight. Along the way, you'll become quite familiar with rendering errors such as flipped polygons, holes, kinks in smooth surfaces, and single-point and non-planar polygons, all of which will be even more glaring at higher resolutions. Too few polygons along the edge of a smoothed surface such as a globe or planet will show up as hard, angular geometry. Surface maps may need to be slightly larger and more detailed than those you would use for video, but pixel blending can still come in handy. Make sure your surfaces are interesting! Flat color shading might look good moving around the screen, but would be just plain boring on the cover of a magazine. Pixel-based effects like glow or particle/polygon size are independent of resolution and may need to be increased to get the desired effect at large scale.

Although your animated scene should be solid, keep in mind that all



The Render Scene panel before rendering a single frame for print.

you really need to render is a single frame. This way, you have more control over how your scene is set up. Hiding any known weaknesses or unfinished parts of your models is easier when the camera is not doing a 360-degree fly-by. You may even choose to leave a minor rendering problem in, render the scene and touch up the problem later in a paint program. It might feel like cheating to purists, but it's allowed.

FryeAllen, like most of the print world, uses Macs for image editing and page layout. While most of the desktop publishing software is now available on other platforms, the fact that Macintoshes were so well-suited for desktop publishing early on has caused the whole industry to be decidedly Mac-biased. We have our Amigas, PCs and DEC Alphas networked to our Macs via Ethernet. We use a shareware utility called "ftp'd" for standard ftp file transfers on the Macintosh. If you don't have a network and need to move your image to a Mac, you can use PC-formatted disks on newer Macs for transfers. Depending on the paint program you use, you can save your image in several different formats. In the past, we've used LightWave's IFF or Targa formats and opened them in Photoshop. With the new savers in LightWave 4.0, you can save directly to the most universal format—a TIFF file.

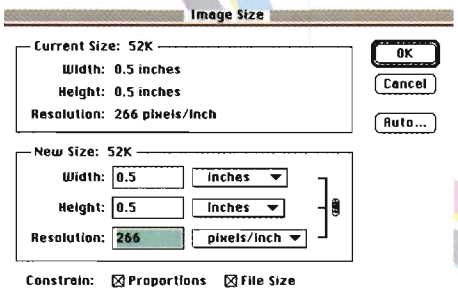


Figure 3

The rendered LightWave image, regardless of the saved format, is an RGB file. Red, green, and blue represent the additive color model of light. This is the way your video monitor blends light to produce every possible color. All three RGB colors when put together add up to form white. This is not the way colors work in print. Printing, by contrast, uses the subtractive color model of pigments. The two theories work in similar but opposite ways. The more ink that's laid down, the darker the image will become. Therefore, the first conversion that takes place with the image is the conversion from RGB to CMYK.

Now, the image needs to be prepared for output, which involves a few quick steps. By opening the image in Photoshop or another good image-editing program, the designer can make some minor adjustments to color, cropping and digital size. LightWave images tend to be very dark when opened in Photoshop, especially on a Macintosh. With a color-correct monitor, we adjust the brightness and saturation of the image on screen. Bright pure tones such as blues and reds are sometimes difficult to nail down in four-color process printing. Also, during the actual printing process, the size of the individual dots within the halftone increase, making the image somewhat darker. This effect, known as dot gain, is caused by ink spreading as it is applied to the paper. Making the image slightly lighter on the monitor offsets dot gain.

Resizing the image appropriately for high-end output is the next step before placing the image in a desktop publishing program such as QuarkXPress or PageMaker. LightWave doesn't think of a rendered image in terms of inches or millimeters; It is only concerned with pixels. For printing purposes, you must define just how big this image is, and in Photoshop's Image Size dialog box (Figure 3), you can adjust the size of the image. The number of pixels in the image remains constant, but the definition of pixels per inch, or ppi, should change. The higher the ppi, the smaller the image dimensions become, and vice versa. Remember, the number of pixels per inch should be roughly twice the lpi necessary for final output. We use 266 ppi for 133 lpi magazine projects. Any other quality image editor should have similar resizing abilities.

After being converted to a CMYK image, this file should be saved as a TIFF file. You'll need to place this image into a desktop publishing program and find a way to send these files to be printed.

Next time, we'll get into the actual process of offset printing and introduce you to your best friend in the world of print media, the service bureau.

VTU

FryeAllen art directs and designs this magazine and is NewTek's advertising agency. Based in Topeka, Kan., they can be reached at 913.232.8388 or see their web site at http://www.tyrell.net/~fryallen.

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Fine Art Production
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Newburgh, NY 12550
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Art Baldwin
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Buffalo, NY 14217
(716) 873-1856
BBS: (716) 873-9262
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Chris Hendrick
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Glendale, NY 11385
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LightWave User Group
System Eyes Computer Store
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Nashua, NH 03063
(603) 889-1234
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South

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

WV Video Toaster Users Group
Destiny Images
Jamie Cope
P.O. Box 4631
Charleston, WV 25364
(304) 445-2368
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Des Moines, IA 50317-4434
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Dan Ablan
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Southfield, MI 48034
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Minnesota LightWaveUsers Group
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St. Paul, MN 55105
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Rocky Mountain Amiga Users Toasters SIG
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The Computer Room
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Englewood, CO 80112
(303) 696-8973
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Redlands, CA 92373
(909) 335-1209
Fax (909) 335-1480
e-mail: scanam@realm.net
Meets on the first Thursday of the month, 6:30-9:30 p.m.

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

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Mix and Match

Digital Video Compositing

by Brad Hayes

If you work in the post-production/video industry at any level, the hottest buzz word you will hear is Video Compositing. Compositing is nothing new. By definition, it is the blending of multiple images, which is what you do every time you pull the T-bar down on your Video Toaster. Over the last few years, major technological advances have given new power to video and animation producers. Some of the highest of the high-end systems out there, the Flame and the Harry, are incredible in both speed, versatility and, of course, price. Trust me on this one—you don't even want to think about buying one of these systems unless you received a half-million-dollar tax return this year!

The first type of compositing, called video layering, is the layering of video images; the second type, digital video compositing, combines your video into your animations. In a layering effect, it doesn't matter if the imagery you're compositing comes from stills or full-motion video. If you're going to use video, you first have to get the stream of video onto your system and then break it down into its individual frames.

We're going to create a scene that has four video elements: the background image, a small rotating square with video on it, text that fades in and out, and a soft-edged circular portion. The techniques mentioned here can be used for all kinds of different effects; as an example, the Text Specularity trick will work just as well on an polygon with an image map or sequence.

The Toaster's and LightWave's compositing abilities give you powerful tools of expression, and experimentation can lead to unique images.

First Things First

Let's work on the simple stuff. Load your imagery into LightWave with the Image panel. Go to the Effects panel and select Image Compositing. Under Background Image, load the sequence or image that you want to be your deepest layer: that's the one behind everything else. Congratulations! You've completed Layer 1. The next one will be just a little tougher.

As for the rotating square, there's something that you need to think about right off the bat. Will the image on the square rotate with the square, or will the square rotate through the image? Go into Modeler and draw out a square box in the front-facing window. Center it, and then rotate it by 45 degrees. Now you have a sort of diamond shape. Load the shape into Layout and go to the Surfaces panel. Select the Surface Color Texture button. This panel will default to planar mapping. Select the Z-axis, and then choose Automatic Sizing. The reason I had you turn the image by 45 degrees was so that the image would be big enough to cover the whole polygon as it rotates. If your original image was not square to begin with, you'll now have to stretch it out along the X-axis. This may be the only math formula I give you, but don't worry, it's really simple:

$$\frac{\text{Old}}{752} \times \frac{\text{New}}{X} = \frac{}{480} \quad \frac{}{Y}$$

Replace Y with the Texture Size from the Texture panel (in my case, Y was 2.284). Multiply the old X value by the new Y value. Divide this number by the old Y value, and this will give you your new X. The formula is easy to remember because it's just a simple criss-cross: multiply down, divide back up.

Now comes the important part. If you chose to map video onto this polygon, you probably don't want it to spin with it (unless you're trying to make your viewer nauseous). To lock the video to the polygon, use the World Coordinates option. If you want your polygon to be located anywhere on the screen other than dead center, move the polygon to the place where it is going to remain, and then enter its X and Y coordinates into the Texture Center option.

Fade On

Now, we're going to make text that fades in and out. Start by building a text object in Modeler. Load the object into Layout, and set your surface settings as follows:

Diffuse	100%
Specularity	100%
Color Highlights	On
Glossiness	Low
Transparency	100%

The thing to know about this technique is that where the Specularity spot is, the object will become visible. Otherwise, the object is completely transparent. Positioning the light is the most difficult part. Trying to get the Specularity spot to appear at a specific point or frame can require a bit of tweaking. The best effect I've achieved with this is making text move and rotate through the scene and pass multiple, colored light sources. It gave the illusion that the object is changing color and density as it flies by.

You Old Softie

To make a soft-edged object, we will rely on Transparency Mapping to create the edge we want. Start by taking the diamond shape and rerotating it in Modeler so that it's a square again. This will make it easier for Automatic Sizing. Go into ToasterPaint and set up a Fade with the hot spot at 100% and the edge at 0%. Select white as your color and drag out a circle, giving you a nice radial gradient from black (the edge color) to white (the center color). Load the image back into LightWave. Go to the Surfaces panel and select Transparency. Load this image on to the Z-axis. I used a circular image for this example because it is quick, but you can use any shape you want. It can even be an animated sequence, which would give the composite a more dynamic feel.

When you produce a composite shot, you are creating the illusion that real and nonreal objects exist together in the same space. Like a magician performing a trick, there are certain techniques we can use to fool the audience in to believing that what they are seeing is real. In reality, almost every lighting situation produces shadows. If your object is to look as though it is in the real world, it has to cast shadows onto your 3D objects as well as the objects in the background. This means you are going to have to give dimension to some of the objects in the Background Image. Dimension also allows us to solve another problem: What if your character needs to walk behind a tree or a desk?

Projection Fun

If you're like me and you love old movies, you've probably seen hundreds of rear-screen projections. This technique, in which actors and props are filmed in front of a screen with some footage projected onto it, is commonly used for car scenes. By placing two actors in a

LightWave's Layout menu has a preview function that shows a black-and-white version of your composited background image sequence.

car on a set and projecting footage of street traffic behind them, it creates the illusion that the car with the actors is driving down a real street. This effect is easy to do with the Background Image. It can be very effective by itself, as long as your characters never need to get out of the car. When your character comes in contact with anything that is in the background like, oh say, the ground, it will need to cast a shadow. In order for your characters to cast shadows, there needs to be something for them to cast shadows onto. As you may already know, you can't cast shadows onto the Background Image. But there are ways around this small problem.

You have to choose a suitable image for the background. For this example, I'm using a shot of my driveway. Go outside and get a shot of your yard or your living room, or use something you have stored on a drive. For our Ground plane, use the Ground object in the Objects/Landscapes directory.

From the Images panel, load your image, go to the Effects panel and select your image as the Background Image. (4.0 users, this is under the Image Compositing button.) Next, after loading the Ground object, go to the Options panel. Reset the grid size to something more usable, such as 1.0. Then, while you're still in the Options panel, select BG-Image under Layout Background, which will let you see the image from the Camera view. Next, you need to position your camera to match the camera angle from the Background Image. As a guess, I put mine at 0, 1.85, -4. These settings back the camera off from center on the Z-axis and raise it up to about six feet (about my height) along the Y-axis. If you were to render at this point, you would get a lovely shot of the top half of your image, and the bottom half would be a big, brown area. Now, we need to add a texture to our Ground plane polygon that will match the Background Image.

If we were to use Planar Mapping, it would be very tough trying to find just the right angle to rotate the plane so that it would match the background exactly and still be level enough to work as the ground. To make things a little easier, the good people at NewTek have included Front Projection Mapping. Front Projection Mapping can be thought of in two ways as a surfacing option. The first way is that this function allows the Background Image to bleed through surfaces with this option selected. For this example and most situations, that description works. That effect is what appears to happen, but it is not entirely accurate because you can select any image to be front projected, not just the Background Image. Front Projection Mapping is a real-world technique.

continued on page 69

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b. ACM SIGGRAPH '96
c. Video Toaster User Expo '96
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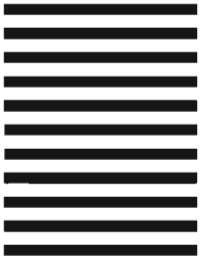

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Video Compositing continued from page 65

You are placing two projectors, one in back and one in front of the action, aligning them so that the projectors match perfectly from the camera's point of view. Then, as your actors move between cutout screens and the background, it will appear that they are moving through a full, seamless environment. Front Projection Mapping matches the size and aspect ratio of the background exactly.

To create this effect, select the Ground surface, and under Color Texture, select Front Projection Mapping. (Notice that there are almost no controls here, only Falloff and Texture Center. That's because there's nothing to adjust.) By the way, Texture Center only affects the position from where Falloff starts, not the placement of the texture. If you render now, you will see the whole Background Image. But there is still one problem: Now the Ground plane is distinctly darker and has a sharp seam at the edge.

There are several ways to fix this. Ideally, you should always try to hide the edges of your polygons in the edges of the image. For example, I could position the edge of my Ground polygon to line up with the edge of my driveway, thereby hiding the polygon edge in the natural break in color and contrast. Any straight line will work for this. Sometimes you don't have the luxury of a straight line, so you have to fake it. One method I like is just to use the Fog effect with Backdrop Fog turned on. You can create a fade from the polygon into your background. Just remember to set the minimum distance far behind your objects. You wouldn't want the ground to fade away in the middle of your shot.

A Mini Tutorial

Another thing that you need to be very aware of is the Front Projection Mapped Surface Luminosity and Diffuse levels. First, notice that both surface attributes are in the same section of the Surfaces panel as Surface Color—this is not a coincidence. These attributes directly effect how you see the color of your object. By default, they are set to 0% for Luminosity and 100% for Diffusion. For most objects, these are appropriate settings. I hate to get technical, but this next part is very important, so read these next few sentences at least twice. Luminosity is the numeric percentage of a surface's color that you can see when zero light is reflected off the object. Diffusion is the numeric percentage of surface color reflected off the object with 100 percent light shining on the object. A surface with

An example of an alpha-channel image used for transparency. The black area allows the background image to show through while the white is opaque.

100% Luminosity will show you 100 percent of the surface color as long as the Diffuse is set to 0%. We want to see 100 percent of the Front Projection Map Color, meaning an exact match to the Background Image. However, a surface with 0% Diffuse will not receive shadows. In order to receive a shadow, you must have an amount of Diffuse on a surface. If all rules are made to be broken, then I feel confident in giving you this rule: To get a natural surface setting the Total value of the Luminosity + Diffuse should always equal 100%. Now, with that said, you will need to tweak these settings until you find the proper balance, and most importantly, what looks good. This can be a very subjective decision and will vary in almost every case.

The reason all this is so important may not be apparent when working with a single flat polygon. However, try loading a sphere into Layout and doing a Front Projection Map on its surface, leaving Luminosity and Diffuse at their defaults. You'll see rather quickly the reason these settings are so important. Not all of your Front Projection Mapping will be done on flat objects. Play with Luminosity and Diffuse until you get the sphere to blend into the background. Then, place an object that will cast a shadow onto the sphere, and bring up the Diffuse level until you see a shadow. If you are using a contoured object for Front Projection Mapping, usually it can be hidden in the shapes of the image. Well talk more about that later.

Adding Dimension to Your 3D World

Now that we know how to give our characters something to stand on, let's give them something to walk around. The surfacing techniques above will apply to all Front Projection Map objects. One of the nice things about compositing objects onto real-world images is the amount of modeling it will save you. In the example so far, we only have one polygon, yet we have created an entire world for our characters. If you want your characters to be in front of everything else that's in the scene, stop reading here. But, if you want you objects to duck behind a sofa or fly behind a cloud, please continue. Modeling for compositing can be very simplistic because the detail is in the image map. If you need your character to walk out from behind a building, you need model nothing more than a plain box.

The first consideration is whether the camera is going to be moving or stationary. There are two very different ways of thinking about creating your environment for each of these two situations. If the camera is going to remain locked off, you don't even need to make your building a full box—it can be a flat 2D polygon in the shape of the building, kind of like the cutout stage scenery in a high school play. If the camera is going to move, you will need to create all of your objects with depth, per-

spective, scale and in proper placement. I'm going to save working with the moving camera until next time because it's a just a bit more complex.

When you are working with stills or locked off shots as your background images, it can be difficult to figure out exactly where to place objects in relational space. However, since you are only creating 2D images on a flat screen, it doesn't really matter as long as the edges match. In this case, what matters most is that you accurately construct the outline of the object. You can achieve this with a few simple tricks.

Once you have loaded an image into LightWave, it also becomes available as a BG-image in Modeler. (4.0 users, you can load images directly into Modeler.) This allows you to trace the contour of any shape in the BG image and make a polygon out of it. The first step is to import the image in the proper aspect ratio. To do this, you'll need to know the aspect of your camera in Layout. Go to the Camera panel. In the Information window on the line titled Frame Aspect, there's a number that represents the horizontal portion of the ratio, X by 1. If you are working with the default 752x480 (D2, NTSC) the number will read 1.346.

My friend composited inside the car with LightWave.

Once you have this number, go back to Modeler. Create a box: 1.346m, -1m, 0 x 1.346m, 1m, 0. Now go to Display/BG Image, select the Z-axis and then Automatic Size. (Yes, you could have just entered 2.692, 2 into the Image Size requester. But I'm lazy—I try to do as little math as possible. Also, 4.0 users can just enter math equations into any number requester in Modeler. It will use the result.) The other reason for creating the box is that you can now do a Fit All or Fit Select and zero in on the picture. Now that you can see the image, you can trace around it. Use the sketch tool to trace the outline. You can clean it up point by point.

Once you have a polygon in the shape that you need, save it and load it back into Layout. Here is where the real magic happens. Reset your camera's Position and Rotation. Then move your cutout object to X=0, Y=0, and Z=3.2. The position of the cutout will line up exactly with the Background Image. If the number 3.2 looks vaguely familiar, it should. It's the default Camera Zoom Factor. If the object and the image did not line up properly, check to see if your Zoom Factor has been changed. And if you have to change it to match the camera that you shot you background with, change the distance of your object to match this number. Anything behind the cutout will appear to be behind a part of the Background Image. The cutout also will cast a shadow onto what ever is behind it, adding to the realism of the effect.

I created a cutout of my car door and put a friend inside the car. You can see that, besides my human box figure, the only other models in the image are the Ground polygon and the car door polygon. Pretty economical, really—a whole world with just two polygons.

That's it, you're on your way to making some very exciting composite effects. Next time, we'll talk more about moving camera shots, complex sets, camera settings, and we'll go into a bit more detail on the importance of lighting.

VTU

EDITORIAL EVALUATION

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Very Useful	Useful	Not Useful
Circle 069	Circle 070	Circle 071

Timely Tutorial Tapes continued from page 59

use everyday in graphic creation, including backgrounds, graphic continuity, and 3D looks in 2D made by beveling and shading. He uses the text functions of ToasterPaint (a feature I had all but forgotten) to great effect. Later in the tape, Anderson comes back to ToasterPaint and shows how to do some cool animation-type work using rotoscoping. He also gives some great points about how ToasterPaint 4.0 has been vastly improved. I thought I new all (or most) of the tools in ToasterPaint, but many of them have been enhanced.

Anderson gives a basic tutorial on how to use and modify text in LightWave. The tips he gives should be useful for the Toaster user who's been frightened by all of the buttons in LightWave. Basically, he shows how to use Modeler to create and modify text. Once the text is created, Anderson goes back into Layout, showing some basic control functions, then composites the text over elements made in ToasterPaint. He also gives some good points regarding the use of antialiasing if you plan to take elements back into TPaint. Finally, Anderson uses ToasterCG to import all the elements generated to compile key pages. He shows how to import and manipulate brushes, demonstrating many of the tools available.

As if this wasn't enough, Anderson goes on to show how to use the Switcher to do some cool tricks, including rotoscoping (using TPaint), two cell animations, graphic builds, keying effects and flipping images (one to reveal another).

I was excited about this tape because it really is geared toward improving the professional look for people in the graphics industry. It's much more than a tutorial for learning the basics. If I have any complaints about this tape, it would be that some of the graphics look a bit dated. However, the points he gives are strong and can be applied to any work using the Toaster.

Working in a vacuum can be as dangerous to creativity as not working at all. *Spacecraft Model Design* and *Great Toaster Graphics* have helped to fill that vacuum, giving me concepts and tools that will increase both the quality and profitability of the work I do.

VTU

Doug Johnson is a partner at Broadcast Business Graphics in Redwood City, Calif. You can reach him in care of VTU.

Company mentioned:

Desktop Images
Spacecraft Model Design ($49.95)
Great Toaster Graphics ($49.95)
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Burbank, CA 91506
1-800-377-1039
http://www.desktopimages.com/desktop/
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Very Useful	Useful	Not Useful
Circle 063	Circle 064	Circle 065

Toaster Talk continued from page 6

NAB 1996

Yes, campers, it's that time again! You've heard of Hunter S. Thompson's book, *Fear and Loathing in Las Vegas*? It aptly describes the National Association of Broadcasters (NAB) annual grip-and-grin fest. Held in the city of lost wages, April 14–18, 1996, the convention is one of the largest in the nation. Many announcements and pronouncements will again be made. The promises, promises, promises that attendees have heard over the past few years *must* begin to be fulfilled. Unfortunately, only a handful of the companies making all these promises are actually going to fully deliver. The trick is to figure out which ones will deliver, and we'll help you with that. Isn't walking in the digital minefield fun?

NewTek will again make a main floor NAB appearance (Booth S1952). This year's exhibit promises to have something for everyone. With the Video Toaster, the Toaster Flyer digital non-linear editing system, the new PC-based Toaster for Windows and super-fast workstations from NewTek Systems Group and LightWave 3D on multiple platforms, NewTek will need to consider adding more booth space! The Toaster for Windows is particularly exciting as that little blue box offers a number of options and opportunities. Take advantage of the Flyer now, with price and quality that is unbeatable, and you'll have the opportunity to go portable on multiple platforms when you think the time is right. With Toaster for Windows, NewTek has provided its users with a sure and cost-effective upgrade path to those that wish to pursue it while still supporting its long-time Amiga users.

In This Issue...

More Toaster entrepreneurs are expanding into offering print services or need to output their images to print and our feature "Video to Print" (pg. 60) helps show you how. *Video Toaster User* is fortunate to count on the creative muscle of FryeAllen Advertising who wrote the piece. They design and lay out this magazine each month and also greatly assist our company in a variety of projects. They are top-notch professionals and have a gazillion awards to prove it. Look for more design from the innovative creators at FryeAllen as the magazine grows and evolves.

Speaking of innovative, the folks at *Weird TV* are some of the most ingenious. They've created a network-caliber TV show and have gone from concept to major market television on a shoestring in a very short time. Our roving reporter Mike Danger gets weird on page 46. We also show you how to be a superhero and create effects or fix video problems with the Toaster's ChromaFX. Additionally, we continue our new segment "Tech Tip of the Month" from NewTek's Technical Support Department.

Next month, we'll review the TuneBuilder software, which helps create music beds, and we'll examine the High Flyer expansion system. We'll also march down the aisle as we examine the very lucrative market of Wedding Video Production. Till then, may your renders be swift, your keys clean and your edits glitch-free!

Reach Tom Patrick on-line at 102170.1372@compuserve.com.

VTU

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Very Useful	Useful	Not Useful
Circle 021	Circle 022	Circle 023

continued from page 45

MARKETING YOUR VIDEO

selling your video. But it's also a much more effective way of reaching your target consumers on a one-to-one basis. One of the keys to successful direct-mail marketing is finding and renting the right mailing list. Since SIVs target mostly niche markets, locating a list is relatively simple.

One way of acquiring a list is through the services of a mailing list broker. Finding a broker is as easy as looking in the Yellow Pages under "Mailing Lists" or "Mailing List Brokers." The broker will work with you to find a list of people who will be most receptive to receiving information about your video. The most important thing for you to remember is that the services of a list broker are *free* to you. These people receive a commission from the list's owner every time they rent that list. So don't settle for just any list. Make the broker work to find the one that will generate the most sales of your video. The best lists are those that consist of active subscribers to a publication.

When composing your direct-mail letter or flier, remember that your ultimate goal is to sell your video. So stress and restress how the reader will benefit from the information it provides. Always include testimonials from those who have watched and benefited from your video.

Low-Cost and No-Cost Advertising

By now it should be clear to you that marketing takes time, dedication, and money. But that shouldn't intimidate or discourage you. There are many ways to market your video that take little—and sometimes no—money at all.

They say that the best things in life are free. And when it comes to marketing your SIVs, nothing could be better than free publicity. In fact, you need to dedicate as much time for developing a publicity plan as you do in forming a marketing plan. Your primary weapon for winning the war on free publicity is the press release. A press release is a one- or two-page summary about your video that you send to media sources in the hopes they'll publish it.

When sending releases to publications, keep in mind that editors receive hundreds of them daily. Unfortunately, most are nothing but ads in disguise, and they end up in the garbage. The secret to getting your release published is to provide legitimate information or announce a newsworthy event. Your video can be mentioned in passing, but it shouldn't be the focus of the release.

To increase your chances at publication, include pictures of your video (or an interesting frame from it) along with the release. Or better yet, send a copy of the video itself! Another low-cost marketing technique that works wonders is to get your video reviewed in the publications your target market reads. If the magazine or newsletter doesn't do reviews, then perhaps your video can be mentioned in their "New Products" or "New and Noteworthy" sections.

On-line services such as CompuServe or America Online are also a great way to generate free publicity for your video, but to be successful, you must follow the rules of on-line etiquette, also known as Netiquette. First, you should study the on-line forums where your target market is most likely to be. Once you've developed a flavor for these forums, become active in them. Give advice, give information, offer to provide people with any help they need. Spend at least one month cultivating a relationship with people on a forum before attempting to mention anything about your video. Once you've established rapport and built up credibility with people on a forum, they will be more receptive to what you have to sell.

Another very easy way to establish credibility on-line is to upload your Special Reports into the forum libraries. Each forum has a library section where subscribers can post information that will be useful to other subscribers. Make sure you add these libraries to your marketing plan by posting articles and special reports there often. At the end of your posting, include ordering information for your video. If you want to see exactly how this is done, you may want to download a few articles that have been posted to these libraries and study their style and format.

Finally, one of the best ways to generate free publicity and word-of-mouth referrals for your video is to give away free copies to qualified sources. Magazines, newsletters, user group presidents and on-line system operators all have the power to spread the word about your product. Every copy you give away has the potential to generate hundreds of sales in return.

So there you have it. You're now ready to create and implement a marketing plan that will first determine whether or not there's an audience for your video, and if there is, help you to make it a best-seller.

Next time, we'll explore advanced marketing techniques such as joint ventures, cross-promotions and the production of ancillary products you can sell in conjunction with your SIVs. We'll also look at some of the best distribution channels available to the independent producer, and those you should avoid at all costs. VTU

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

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2-Hour S-VHS Camcorder

- S-VHS system – records and plays over 400 lines horizontal resolution
- Now includes manual zoom control
- Laminated amorphous heads assure exceptional picture quality, high resolution, superb color reproduction, and high signal-to-noise ratio
- 12:1 power zoom lens with continuously variable speed zoom
- Hi-fi stereo and linear track for recording. Also has "Audio Out" select switch for Hi-fi/Normal/Mix combinations
- High performance stereo zoom microphone features three different settings: Wide, Telephoto or automatic zoom.
- Built-in VITC (Vertical Interval Time Code) time code generator gives absolute address to each frame of video for frame accurate editing (with specific edit systems)

AG-DP800 SUPERCAM

S-VHS 3-CCD Digital Signal Processing Camcorder

- Three high-density 380,000 pixel CCDs with half-pitch pixel offset achieves over 700 lines of horizontal resolution, a S/N ratio of 60dB and remarkable sensitivity of f8 at 2000 lux. Additionally the Frame Interline Transfer (FIT) CCDs minimize vertical smear, so you maintain impressive picture quality even in very bright illumination.
- Digital Signal Processing circuitry provides four valuable benefits
  1) Consistently reliable up-to-spec performance.
  2) Fine adjustment of a wide range of parameters.
  3) Memory storage and instant recall of specific settings.
  4) More flexible and higher quality image processing, as well as easier maintenance.
- Some of the DSP circuits and their functions:
  - CHROMA DETAIL - This function compensates for poor resolution in the high chroma areas of the picture.
  - DARK DETAIL - Determines optimum degree of contour enhancement in dark areas to deliver crisp, natural-looking images
  - HIGHLIGHT COMPRESSION - Expands the dynamic range of the highlighted areas and prevents halation. The highlight compression circuit allows a wide dynamic range producing detailed images even against bright backlight or daylight.
  - FLARE CORRECTION CIRCUIT - Compensates for unsteady black caused by light or by a subject's movements.
- Six Scene File modes. There are two user modes for custom digital parameter settings including Horizontal Detail, Vertical Detail, Chroma and Dark Detail, and Color Correction. The four preset modes are normal, fluorescent, special and sparkling.
- In addition to regular AGC (Automatic Gain Control), Supercam has a Super High Gain mode. At F1.4 this enables shooting under illumination as low as 2 lux while retaining detail and color balance.
- Synchro Scan function allows flicker-free shooting of computer monitors. Electronic shutter increments can be set variably from 1/61 seconds to 1/253 of a second.
- Built-in internal time code generator lets you record with SMPTE LTC/VITC (Longitudinal/Vertical Interval) time code
- Two hi-fi stereo audio channels with a dynamic range of 80 dB, as well as two linear audio channels with Dolby NR. Normal/Hi-Fi recording is selectable. Uses XLR connectors to further ensure high-quality sound.
- Phantom power can be supplied to an optional microphone. Power can be switched off to prevent battery drain when not in use.

NEW! AG-EZ1

3-CCD Digital Videocassette Camcorder

Heralding a new era in video, the AG-EZ1 is the world's first camcorder to incorporate 6mm DVC (Digital Video Cassette) technology. The biggest leap in video since S-VHS and Hi8 were introduced six years ago, DVC is a revolutionary video format that delivers such high quality — it literally rivals broadcast cameras. Utilizing DVC the AG-EZ1 records an extraordinary 500 lines of horizontal resolution — nearly 25 percent more than S-VHS, Hi8 or laserdisk, and 50 percent better than a live television broadcast. And because it's digital, picture quality is not only sharper but unbelievably 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. More pixels than any other camcorder to date, the viewfinder provides a remarkably clear, accurate image with 400 lines of resolution and displays all automatic and manual features on demand. The viewfinder also tilts 120 degrees vertically for shooting subjects from high or low angles, & its professional size means you don't have to press it against your eye to see the picture.
- Variable high speed shutter goes from 1/60—1/8000 of a second in 14 increments.
- Built-in Digital Electronic Image Stabilizer (DEIS) compensates for jittery video and is particularly effective when the digital zoom is employed.
- Equipped with 10:1 power and 20:1 digital zoom lens. Both zooms are adjustable in four speeds (3.5 seconds—15 seconds) based on how hard or soft the zoom toggle is pressed. To set up a shot quickly, a Turbo Zoom function moves from tight to wide angle, or vice versa, in under two seconds. For extreme close-ups the lens can focus up to 1/4" from the subject.
- 3 features for finding previously recorded scenes easily:
  —TopScan plays back the first few seconds of each segment, providing a handy way to review an entire tape.
  —Record/Review rewinds the camcorder and plays the last 10 seconds of the last recorded scene, ideal for making sure you got that important shot.
  —Indexing function encodes the first scene shot on a given day, so you can quickly find the starting point of each day's shooting.
- Digital Photo-Shot 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.

Canon L2

Introducing the new Canon L2 Hi-8 Camcorder with VL Mount for interchangeable lenses, RC Time Code and digital effect for unlimited creative freedom.

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

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

JVC

GY-X2B

3-CCD S-VHS Camcorder

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

NEW! GY-X3

3-CCD S-VHS Camcorder

By employing professional camera technology in new economical ways, JVC has succeeded in bringing to market a professional 3-CCD camera that breaks all previous price barriers. The new GY-X3 delivers all the performance of a high end 3-CCD camera—high resolution, high sensitivity, low noise and natural color—at an incredible price.

Features:

- Three 1/3" CCDs provide a sensitivity of 2000 lux at F8.0, signal-to-noise ratio of 60dB and 650 lines of horizontal resolution.
- Low light capability allows you to shoot in as little as 4 lux and still have bright pictures with good resolution and strong, vivid colors.
- Full Auto Shooting (FAS) mode instantly adjusts to changes in shooting conditions. You can go from bright outdoors to indoor lighting and gain, iris, audio level and color balance will all be automatically adjusted.
- Variable Scan View allows flicker-free shooting of a computer monitor.
- Has a built-in 14:1 (5.5-77mm) continuously variable speed zoom lens. The amount of pressure applied to the rocker determines the speed of the zoom. Both the iris and zoom can be controlled manually if desired.
- Built-in Control Track (CTL) time code generator as well as a time/date generator. The advanced CTL time code generator has a "scene finder" function that records an identification code each time you start taping. This lets you easily advance to the next or previous scene when using the JVC Edit Desk system.
- Large high resolution 1.5-inch viewfinder displays comprehensive status indicators.

Quick-Draw Professional

FOR CAMCORDERS OR STAND ALONE CAMERAS

porta brace

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

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SONY

CVD-1000 Vdeck Hi-8 Computer VCR

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

- Records Sony RC Time Code to any 8mm or Hi-8 tape plus it can dub RC Time Code to any existing tape. Also reads Sony Professional 8mm Time Code.
- With RC Time Code you can search for specific frames of video. The Vdeck reads RC Time Code even in fast forward or reverse so you don't have to switch to playback mode to read the Time Code.
- Has AFM Hi-Fi stereo plus a PCM digital audio track. You can use the PCM track to dub digital audio background music or high fidelity narration.
- Has 3 video inputs (S-Video, 2-composite) and 2 stereo audio inputs. The Vdeck features a built-in switcher for transparent integration of multiple audio and video sources.
- Built-in microphone minijack allows connection of a mic to the Vdeck letting you add narration to your presentations.
- Microphone/Audio Mixer - the Vdeck lets you mix your audio and microphone sources onto the AFM and/or PCM tracks while recording.
- Built-in fader lets you fade audio, video or colors during playback to give your presentations a more professional look. You can also fade live video. Create special effects by fading color to black & white (or vice versa). Fades can be preserved by recording onto a second VCR.
- The Vdeck can read and write data code, allowing date and time information to be stored on the tape as data. Lets you search for a specific date and time on your tape.

EVO-9720 Hi8 Dual Desktop Editing Machine

BUILT-IN EDITING CAPABILITIES

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

SUPERIOR PICTURE QUALITY

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

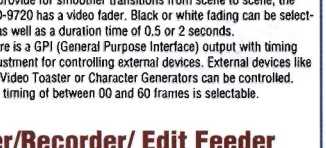
A/B ROLL EXPANSION CAPABILITY

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

ADDITIONAL FEATURES

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

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



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

EVO-9850 Hi8 Editing Recorder

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

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SONY

SVO-2000 S-VHS Hi-Fi Editing VCR

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

Superb Video and Audio Performance

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

Editing Features:

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

Convenient Functions

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

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

SVP-5600 and SVO-5800 features:

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

ADVANCED EDITING FUNCTIONS

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

FOUR CHANNEL AUDIO SYSTEM

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

MULTIPLE INPUTS AND OUTPUTS

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

USER FRIENDLY OPERATION

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

COLOR MONITORS

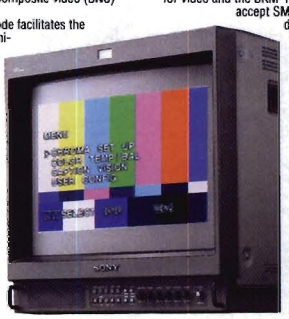
PVM-1350 13˝ Presentation Monitor

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

PVM-1351Q 13˝ Production Monitor

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

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



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

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

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

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GVR-S950 S-VHS Single Frame Recording VCR

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

GVR-S955 S-VHS Single Frame Recording VCR

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

JVC

S-VHS EDIT-DESK SYSTEM

BR-S500U Player • BR-S800U Edit Recorder

RM-G800U Edit Controller

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

OPEN ARCHITECTURE

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

CONTROL TRACK TIME CODE SYSTEM

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

SUPERB VIDEO PERFORMANCE

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

32X VARIABLE-SPEED SEARCH

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

FOUR-TRACK AUDIO

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

RM-G800U EDIT CONTROLLER

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

TAO EDITIZER 3.0

A/B Roll Edit Controller for PC or Macintosh

Hardware Features:

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

Software Features:

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

NEW! EDITIZER-DTC

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

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

Panasonic

AG-1300 Industrial 4-Head VHS VCR

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

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

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

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

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

- Significantly higher picture quality due to digital signal processing
- Third generation picture quality has never been at this price level
- Uses Amorphous video heads which are superior to conventional ferrite heads and deliver rich, vibrant color reproduction and a high S/N ratio.
- Built-in Digital Time Base Corrector effectively eliminates jitter and distortion. Playback is high quality, stable and with natural colors.
- Two Hi-Fi stereo tracks with a frequency response from 20Hz to 20,000 Hz and a 90 dB dynamic range. (Has one linear audio track.) Also has stereo recording level control, headphone monitor terminal and mic input terminal.
- Independent input and output for the linear audio track
- Does assemble edit, video insert and audio dub. Flying erase head for smooth, clean, seamless edits. 5-pin edit terminal makes it easy to set up an editing system.
- Jog/shuttle Dial for varied playback from slow motion to high-speed search (shuttle) and frame-by-frame picture control in forward and reverse (Jog).
- Outputs the audio track during search operations for cuing and quick confirmation of audio recording.
- What makes the AG-1980 the perfect editing VCR? The advanced dual-loading mechanism features a quick response time, exceptional tape protection, remarkable tape control accuracy - all make for outstanding editing precision and ease.
- Automatic head cleaner removes dust and other particles from the heads to help maintain optimum performance.

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

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

- Uses amorphous video heads which are clearly superior to conventional ferrite heads. They are better because their magnetizing strength is much greater, yielding a higher signal-to-noise ratio.
- Incredibly accurate with optional AG-A570 Edit Controller, an accuracy of ± 3 frames can be achieved.
- Built-in RS-232 provides machine control of playback, recording and editing functions from a computer. You can use the power of your computer (with optional software) to assemble hundreds of scenes, create edit decision lists and do complex editing jobs. Currently supported by Amilink, FutureVideo, VideoMedia, TAO, and Matrox.
- Auto Repeat function continuously replays a tape which can be cued for tape's end or when recorded material ends. Allows the AG-5700 to be used in showrooms, lobbies, or any in-store video display.
- Separate Hi-Fi (Ch.1/Ch.2) audio recording level controls with display. There is also a headphone output with volume control.
- For unattended recording there is a Sensor Recording function. When a video signal is detected the power is automatically switched on and the AG-5700 begins recording.
- Portable - weighs less than 13 lbs, is extremely compact and has a built-in carrying handle.
- User friendly design features record, play, and stop switches that are well illuminated during operation.

AG-DS840/AG-DS850

S-VHS DIGITAL Slow-Motion Editing System

- They provide clear, noise-free, high quality slow playback. Playback speed, including Digital Still is selectable in 10 steps (-1/3, -1/5, -1/10, -1/15, +1/30, +1/5, +1/3, +1/2).
- 3-dimensional digital TBC with a correction range of one field. With the VCRs continuously retaining one field in memory, the data is used for 3-D type processing thereby providing excellent dropout compensation.
- Digital Signal Processing for improved picture quality, and for maintaining uniform picture quality during editing. A Chrome Aperture Compensation (CAC) circuit eliminates color blurring and expands chroma bandwidth. Other digital processing circuits include:
  - Dig. Noise Reduct. (DNR): Processes Y & C signals separately to boost S/N Ratio by minimizing noise during playback.
  - Digital Comb Filter: Advanced 3-dimensional system for total Y/C separation providing reduced color and luminance blurring.
  - Switching Noise Mask Circuit: Eliminates noise caused by head switching during slo-mo playback.
- Employs amorphous video heads that have a higher magnetic coercivity than conventional ferrite heads. Expanded frequency response from the amorphous heads enhances picture quality by minimizing color blurring.
- Built-in LTC/VITC (Longitudinal/Vertical Interval) time code reader/generators for absolute frame accurate editing.
- Equipped with component outputs allowing easy connection to other component video equipment. This allows high quality transfer of S-VHS source material to Betacam or MII.
- IQ (Intelligent Quest) mechanism delivers precise, high-speed operation. The dual-loading system achieves high-speed response while protecting tapes and heads. The tape transport mechanism uses five direct drive motors, including two reel drive motors.
- Capstan Control System with large capstan spindle allows high-speed search at 32x normal speed (with color picture).
- 4 channel audio – 2 hi-fi stereo channels with dynamic range of 90dB as well as 2 linear channels with Dolby NR. Each audio channel has its own input (AG-DS850 only) and output with individual channel-level setting capability and uses XLR connectors.
- Provide 16:9 wide aspect compatibility, so they are fully equipped for the next generation of televisions.
- 3 rack units high, they are unbelievably compact for easy space saving installation. 19" rack-mountable with optional AG-M730.

NEW! AG-DS540/AG-DS550

S-VHS Source Player/ S-VHS Edit Recorder

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

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Seagate

BARRACUDA 4LP SERIES DISK DRIVES

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

- Embedded Servo Technology eliminates the need for thermal calibration, thus ensuring a continuous data stream with no housekeeping dropouts.
- With a minimum sustained data rate of 3.0Mb/s, multimedia files are played back smoothly, with no interruptions.
- All drives are Ultra SCSI (SCSI-3 SPI) compliant, with transfer rates up to 20Mb/s (8-bit Narrow) and 40Mb/s (16-bit Wide).
- All drives rotate at 7200 rpm, have a maximum seek time of 17 to 20ms and an average latency of 4.17ms.
- All drives are 3.5" form factor & are either 1" high or half height.

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

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HOTRONIC AP41

STAND ALONE TBC/ FRAME SYNCHRONIZER

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

AP41-SF

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

AP41-SP

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

HORITA

BSG-50 Blackburst/Sync/Tone Generator

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

- 6 BNC video/pulse outputs
- Now available: 6 blackburst, 4 sync, 2 subcarrier
- Each sync output individually settable for composite sync, composite blanking, H-drive, or V-drive.
- Separate buffer for each output–maximum signal isolation
- 1KHz, 0dB sinewave audio tone output, locked to video
- Outputs can easily be configured to meet specific user and equipment needs $269

CSG-50 Color Bar/Sync/ Tone Generator

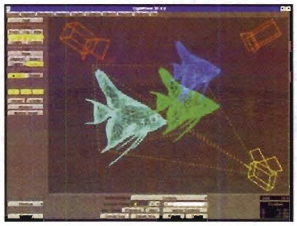
- Generates full/SMPTE color bars, blackburst and composite sync signals.
- Built-in timer can automatically switch video output from color bars to color black after 30 or 60 seconds. Easy and convenient for producing tape leaders and striping tapes with color bars and black.
- Front panel selection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

WE STOCK THE FULL LINE OF HORITA PRODUCTS INCLUDING:

WG-50 -	Window Dub Inserter
TG-50 -	Generator/Inserter
TRG-50 -	Generator/Inserter/Search Speed Reader
TRG-50PC -	Has all of the above plus RS-232 control.
VG-50 -	VITC Generator, LTC-VITC Translator
VLT-50 -	VITC-To-LTC Translator
VLT-50PC -	VITC-To-LTC Translator / RS-232 Control
RLT-50 -	Hi8 (EVO-9800/9850)TC to LTC Translator
TSG-50 -	NTSC Test Signal Generator
SCT-50 -	Serial Control Titler "Industrial" CG, Time-Date Stamp, Time Code Captioning
SAG-50 -	Safe Area, Convergence Pattern and Oscilloscope Line Trigger and Generator

NEWTEK LIGHTWAVE 3D

The Ultimate 3D Rendering and Animation System for Broadcast Graphics



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

FEATURES:

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

DIGITAL PROCESSING SYSTEMS INC.

VT-2600 Personal TBC IV

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

DR-2150 Personal Animation Recorder

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

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

DPS PVR-2500 Perception Video Recorder

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

- The PVR-2500 is a full-length PCI card with a SCSI-II interface which connects to one or up to seven dedicated hard drives. Because the SCSI controller is integrated with the PVR-2500, video data never has to move over the PCI bus during playback. This avoids the bottlenecks found in systems which use the computer's hard drive for video storage.
- Perception is designed to run under Windows NT 3.5 on computers employing 486 (DX2-66 or higher) Pentium, DEL ALPHA or MIPS processors. Perception's software utilizes Windows NT's native support for multitasking and multiple processors, allowing use with the most powerful computers available today.
- Perception gets animations out of your computer quicker and easier. Its exclusive multi-format virtual file system ensures complete integration with your existing Windows NT applications. Any acquired video or computer generated Perception video clips appear simultaneously in many different file formats including TARGA, SGI, BMP anf IFF. Perception is compatible with all the new NT versions of Lightwave 3D, Autodesk 3D Studio, Crystal Graphics TOPAS 5.1 Professional, Microsoft SoftImage, Elastic Reality and others.
- Video output section utilizes 10-bit 2x oversampled encoding and provides broadcast quality CCIR-601 (720x480) resolution. Perception's dynamic range is in excess of D1 scaling so that images are brighter, have more color and greater spatial resolution than ever before. Component, composite and S-Video outputs are provided via the included breakout cables.
- Percetion can also control BVU protocol VCRs for video acquisition. VCR-like controls on the Perception's GVI simplifies the task of batch digitizing and recording. In this mode, the PVR-2500 can read SMPTE time code from the source deck.
- Can be used with any Windows NT compatible sound card. Synchronization of audio and video is maintained by the PVR software. Some sound cards, such as those made by Turtle Beach, provide accurate system timing and consistently maintain synchronization during long video clips. Captured audio is stored on the computer's system hard drive, not on the dedicated drives. This approach provides maximum flexibility for manipulating audio and video during editing.
- Perception can perform real-time interpolation of 30 fps video to 24 fps film rates or convert vica versa. This means that it is also at home on the Hollywood movie set as well.
- Software for Windows 3.1 is supplied as well. Third party editing sltware such as Adobe Premier or InSync RAZOR can be used. In fact, a system equipped with the PVR-2500 and the AD-2500 capture card, a sound card, editing software and one or more SCSI hard drives becomes a non-linear editor of unparalled performance at an unbeatable price.

AD-2500 CAPTURE CARD

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

PROFESSIONAL VIDEO TAPE

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ST-120			7.99

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HGX-PLUS Expitaxial VHS (Box)

HGXT-60 Plus	2.69	HGXT-120 Plus	2.99

BQ Broadcast Quality Expitaxial VHS (Box)

T-30 BQ	5.49	T-60 BQ	6.19
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BQ Certified Professional S-VHS (In Box)

ST-31 BQ	7.19	ST-62 BQ	8.09
ST-126 BQ	8.39	ST-182 BQ	14.99

SONY

Hi-8 Professional Metal Video Cassettes

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P6-60 HMPX	6.59	P6-60 HMEX	11.49
P6-120HMPX	8.89	P6-120HMEX	15.49

NEW! Hi8 Metal Evaporated Editor (HMEAD)

E6-30 HMEAD	10.49	E6-60 HMEAD	14.89
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KCS-10 XBR (mini)	8.79	KCS-20 XBR (mini)	10.19
KCA-10 XBR	9.29	KCA-20 XBR	10.69
KCA-30 XBR	11.99	KCA-60 XBR	15.69

KSP 3/4" U-matic SP Broadcast (In Box)

KSP-S10 (mini)	9.59	KSP-S20 (mini)	11.09
KSP-10	10.09	KSP-20	11.59
KSP-30	12.99	KSP-60	16.99

BCT Metal Betacam SP Broadcast Master (Box)

BCT-5M (small)	15.39	BCT-10M (small)	17.39
BCT-20M (small)	21.29	BCT-30M (small)	23.29
BCT-60ML	33.19	BCT-90ML	51.99

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

- Spectacular, photo-quality dye-sub prints or fast, inexpensive wax thermal transfer proofs with up to 16.7 million colors.
- Bright, vibrant colors are enhanced by the highest dye-sub printer resolution available today — at any price.
- Delivers laser-quality 600 x 300 dpi text - in color or B&W
- LocalTalk port or Centronics-type parallel interface for Windows and Amiga. Ethernet is available for Macintosh. Apple's ColorSync color matching software is also supported.
- Available for PC, Macintosh and Amiga platforms. Third party drivers are also available for Auto Desk, AOI, Unix and others
- Optional Adobe Postscript Level 2 for compatibility with nearly all page design, illustration and desktop publishing programs.
- Accepts letter (8.5 x 11"), letter-long (8.5 x 13"), A4 (210 x 297mm) and A4 long (210 x 348mm) paper.

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SAMSON®

MR-1 Wireless System

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

Lavalier (clip mic) Systems

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

Hand-Held Systems

- SH-2/PR4 Audio Technica Dynamic mic element & MR-1 Receiver **369.95**
- SH-2/58 Shure SM58 Dynamic mic element & MR-1 Receiver **434.95**
- SH-2/85 Shure SM-85 condenser mic element & MR-1 Receiver **592.95**

SUPER TD SERIES TRANSMITTERS

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

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

Sony ECM-144 ..... **507.95** Sony ECM-44 ..... **544.95**
Sony ECM-55 ..... **653.95** Sony ECM-77 ..... **724.95**
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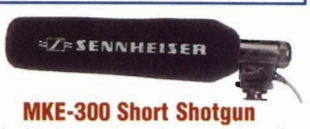


MKE-300 Short Shotgun

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

K6 MODULAR ELECTRET MULTIMIKE SYSTEM

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

K6

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

ME 66

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

ME64

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

ME62

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

lowel®

VIP Video Lighting System

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

i-light

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

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

V-light

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

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

Pro-light

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

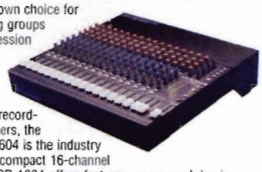
- Multi-use halogen focusing source
- 125 and 250 watt AC powered light or 100 watt at 12 volts
- Optional controls – expandable barndoors, scrims, diffuser, dichroic filter, snoot & umbrella, gel-frame & flags.
- Optional cigarette, 4-pin and 5-pin XLR connectors.

MACKIE

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

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

CR-1604 16-Channel Mic-LineMixer



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

SONY

TCD-D7 DAT Walkman Player/Recorder

- High-quality Standard Play (SP) mode provides up to two hours recording of 16-bit digital audio on a DT-120 DAT cassette. The SP mode is ideal for recording live music.
- Long Play (LP) mode allows up to 4 hours of record/playback of 12-bit audio on a single DAT cassette. The LP mode is ideal for meetings, conferences or other voice recordings.
- Equipped with digital coaxial and optical input connector. Maintains the highest signal purity for recording and playback of digital sources with all information retained in the digital domain.
- Also has analog Mic and Line inputs for recording from analog sources without external adapters.
- High-speed Automatic Music Sensor (AMS) search function finds and plays tracks, skips forward or back up to 99 tracks, all at 100x normal speed.
- Has a Digital Volume Limiter System (DVLS) that increases listening comfort and sound quality by automatically adjusting for sudden level changes of the recording. It also helps prevent sound leaks through headphones.
- Two-speed cue-review lets you hear sound while player is in fast-wind modes, up to 3x or 25x normal speed.
- Compact and portable, it has an anti-shock mechanism that permits accurate recording and playback even while in motion.
- LCD display with backlit windows clearly shows recording level, track number, operating status and 4-segment battery indicator, even in low ambient light conditions.
- Optional RM-D3K System Adapter Kit for complete digital interface. The kit is equipped with the input/output connectors for both the optical cable and the coaxial cable. Therefore you can use it as a relay between the TCD-D7 and other digital equipment. Also includes a wireless remote control.

AZDEN PRO SERIES VHF WIRELESS MICS

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

They All Feature:

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

COMPLETE SYSTEMS

WMS-PRO

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

WLX-PRO

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

WHX-PRO

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

PRO SERIES COMPONENTS

WL/T-PRO

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

WM/T-PRO

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

WR2-PRO

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

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NRG

POWER BELT SERIES

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

880 Power-Pro +

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

970 Power-MAX

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

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

VARA-LITE PRO

Professional DC On-Camera Light

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

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

POWER STATION-2 SERIES

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

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

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▲ ***Death 7***
by David LO

Created for a new Sci-Fi CD-ROM game, this image was created on an A4000 with LightWave 3D 3.5 and was rendered in approximately eight hours. The game, *Angel Devoid,* from MindScape is due out this month. Lo works as an animator and senior graphic artist at Electric Dreams in Tustin, Calif and can be reached at (714) 573-2112.

▲

X-House TV Room
by Erik Jones

With a render time of eight hours, this image was created in LightWave on an Amiga 2000 with an 030 accelerator. Over 40,000 polygons were needed along with three separate images. Jones owns EZ Video Services in Southern California. Call him at (909) 394-0341.

▼ ***Ring Ships***
by Clarence Johnson

A recent Art and Design BFA graduate, Johnson created this animation with LightWave 3D 3.5 and Deluxe Paint 4.5 on an Amiga 2000 with only 10 MB of RAM. On average, the scenes rendered at 14 minutes per frame. Fractal noise was used to give the ship a "dirty look," while a deep bump map provided the cracks.

▼ *Patrol Labor*
by Jeff S. Lovering

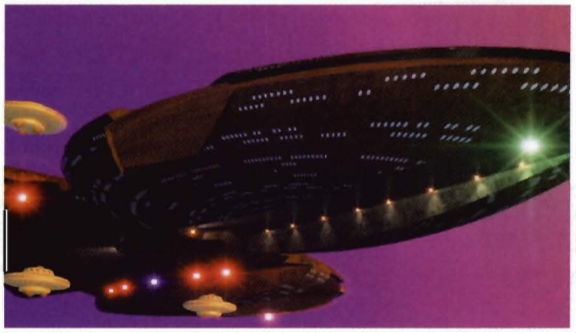
Created on an Amiga 2000 with a Video Toaster 3.1, LightWave 3D 3.5 and ToasterPaint, this robot was modeled in approximately 35 hours. It is composed of 25 objects, with a total polygon count of over 30,000. Lovering owns Caffeine Dreams and produces work for various local TV stations in New Hampshire. His business phone is (603) 594-0917.

▲ *Hurts So Good*
by Arthur H. Hall

Created on an Amiga 2000 with a Video Toaster 2.0 system this image was part of research for a future project. Rendering time was four hours with a GVP 030 accelerator. Hall owns Crynic Crypt Productions (305) 929-4931 in Dania, Fla.

▼ *Two If By Sea*
by Pete Schuermann

Schuermann rendered this image on an Amiga 2000 with an 040 accelerator and 16 MB of Fast RAM. He owns Creation Animation in Colorado Springs, Col.



▲ *Earth Puzzle*
by Pete Schuermann

Another project done for a client by Schuermann, each piece of the puzzle in this animation flies in from offscreen to land in its appropriate spot. Get in touch with Schuermann at (719) 635-6087.

► *Cathedral Room*
by Bruce Branit

This room was one of a series of sets produced for an educational video on Russian history. Comedian Yakov Smirnoff was later composited onto these LightWave renders. This scene was produced on a 275 MHz DEC Alpha System and rendered with the help of a Raptor. Branit is Animation Director for FryeAllen, Topeka, Kan. Call him at (913) 232-8388.

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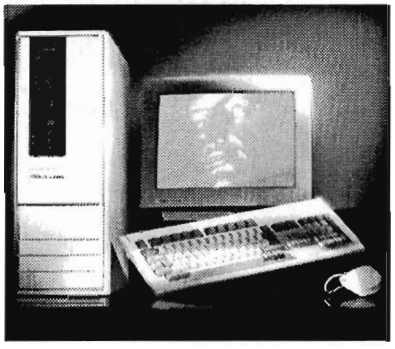

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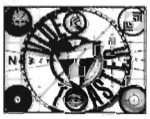

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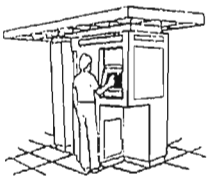

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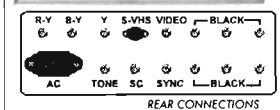

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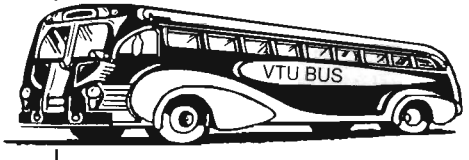

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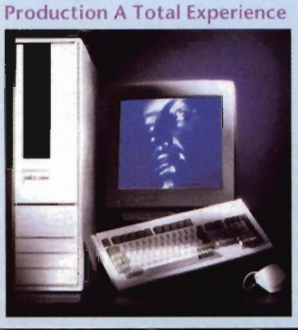

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and 10GB HD, 2X CD-ROM Drive, 2MB Display Card, Windows-NT, Keyboard, & Mouse.

LightWave WorkStations CALL

WaveMaker 2.0 $185

Flying-Logo Animation Scene Builder For Lightwave3D.

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

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

---

2 Node Rederfarm Package

$995

EnLan-DFS, T-NET, 2 Ethernet Cards, 10 ft' Cable, 2 T-conecters, 2-Terminators

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LIGHTWAVE 3D

LightWave3D 4.0

Windows Intel	$785
Win-NT Alpha	$2295
Win-NT MIPS	$995
AMIGA	$785
SGI	$2595

$695*
competitive upgrade
*Call for Details

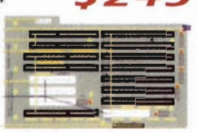
ANTI GRAVITY LABS

Pentitrator™

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

Expandor Bus Card™ $245

The ultimate in slot expansion for your Amiga. It gives you 7-Zerro, 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.

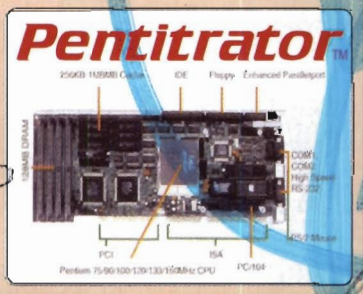


The Pentitrator System Card allows you to add a full Pentium computer to your Amiga 4000* with speeds up to 150MHz.

Specifcations:
BUS: 132MB/sec PCI-Bus
CPU: Pentium 75-150MHz
ROM: PC104 EPROM
RAM: Upto 128MB
Cache: 256K-1MB
Int. PORTS: IDE & Floppy
Ext. PORTS: COM1, COM2, PS/2 Mouse, High Speed RS-232, Enhanced Parallel
Slot: Fits in the PCI and ISA bus slot**

Pentitrator-XX	$ 995
Pentitrator-75	$1245
Pentitrator-90	$1395
Pentitrator-100	$1495
Pentitrator-120	$1595
Pentitrator-133	$1795
Pentitrator-150	$ n/a
Pentitrator-75X with: Expandor Bus Card, AGL-Tower Case	$1895

*(Soon for A3000,4000T) **(Requires Expandor Bus Card and AGM Tower Case)



AGL Tower Case™

The Perfect exspansion 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

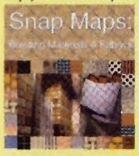
WithOut Power Supply	$395
With Expandor Bus	$640
With Power Supply	$495
With Expandor Bus	$740

SNAP MAPS:

Fields & Foliage
Building Materials & Fabrics

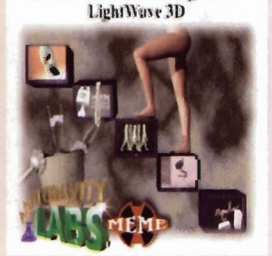
Whereas other texture libaaries help you enhance objects you created - Snap Maps help you create objects!

Fields & Foliage $129.95
Building Materials & Fabrics $129.95
Super Bundle: F&F plus BM&F $240.00



Lock & Key

A Powerful Motion Plug-In for LightWave 3D



Lock & Key $145

Lock & Key is a powerful Motion Plug-In for LightWave 3D v4.0 that allows you to:

- Eliminate "foot slide" during walk animations
- Simulate parenting on a frame-by-frame basis
- Lock an object to a bone!

Available for Amiga, Intel, and Alpha platforms!

Lock & Key is a powerful Motion Plug In for LightWave 3D 4 with Lock & Key you can simulate parenting of any item to any other item on-the-fly. Use it to keep you characters feet on the ground without sinking or slinding, have your characters pick things up without using duplicate objects, use it on bone hierarchies to eliminate gimbal lock.

LightWave3D V4 PLUG IN

Lock & Key is a full LightWave3D 4.0 Plug-In and runs from inside layout.

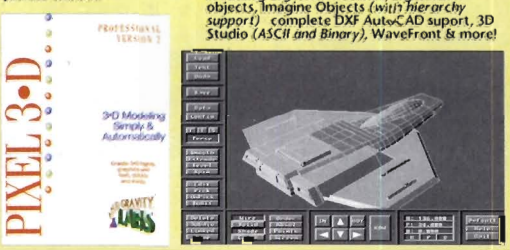
NEW! Version 2.1 Pixel 3D Professional $195

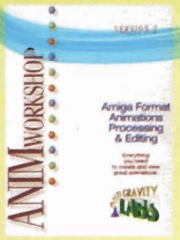
UPGRADES $Call

is the most powerful object/logo utility available. Use PixPro2 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 PixPro2.1 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 suport, 3D Studio *(ASCII and Binary)*, WaveFront & more!



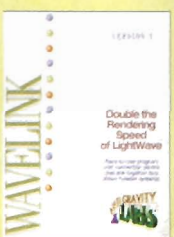


Anim Workshop Ver-2. $95

AWorks provides tools to create, play, process, edit and add sound to your animations. Add Sound V.2 supports all AGA modes, Anim5, 7, & 8 formats.

WaveLink Ver-1 $95

Connects any two Amigas for file sharing and distributive rendering using LightWave or Light Rave. You can even batch render!



Replica Technology

Homes: $95

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

Interior Design 1: $45

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

Interior Construction: $95

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

Interior Design 2: $45

Over 50 Kitchen & Bathroom Objects: Lighting Objects, appliances, cabinetry, sinks, vanities, bathtubs, toilets & toiletry, & more. Doors & drawers can be animated!

Interior Design 3: $45

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

Interior Design Collect

CD-Rom

$275

Over 500 Objects In All!

CONTROL TOWER $195

Soar To New Heights With The Flyer

Visual Inspirations

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 Options 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...

.... the list goes on and on. Best of all, YOU are firmly in the pilot's seat.

Control Tower accomplishes its many tasks by using many flexible and powerful Macros & ARexx scripts in conjunction with the Switcher, Image FX, Toaster Paint, Amiga Dos, and LightWave to automatically process your frames. As for convenience, no flight attendant ever had so much to offer:

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

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 disired footage will move to the harddisk. Then when the Edit is done you can take the EDL to an ***ON-LINE SUITE*** or ***REDIGITIZE*** at a higher resolution!

VISUAL FX VOLUME 1 $125

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

Volume one by Leo Martin and volume two by Mark Thompson are State-Of-The-Art Fx. The impressive front end of ***Visual FX*** gets you into production now, no previous Lightwave experience needed.

Navigator

Includes Video

$85

For The Video Toaster Flyer Editor

Eight Powerfull, Easy To Use Programs That Run From The Video Toaster Switcher Interface

- Multiple Overlay Effects, CG Pages Over Effects
- Key Graphics Or Titles Over Video & Use FX to "Fly-In"
- No Waiting For Titles/Overlays to "Pop On" In a Clip
- Automated Project Building
- Instant Global Duration Settings For Stills/Framestores
- Automatic In/Out Settings for Video Clips in Projects
- Easy & QUICK Audio Tools For Lengths & Fades
- Instant Grabbing & Compositing of Flyer Stills

DEDICATED DIGITAL IMAGERY

Universal 3DCD-ROM
ALL 5 SETS - PLUS
$195

Citybuilder $95

Create a 3D Virtual City with CITYBUILDER contains over 75 detailed 3D objects featuring high and low Resolution versions of recognizable buildings from major U.S. cities.

Household Items (50 objects) $75

Medical/Anatomy (25 objects) $75

Space Essentials (50 objects) $75

Autos/Vehicles (65 objects) $75

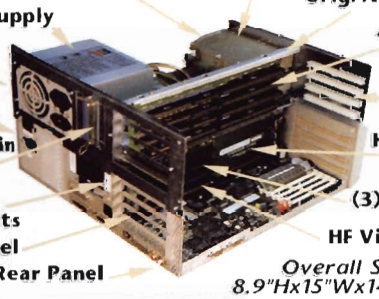
Objects are available in Lightwave3D, Imagine, DXF, and Wavefront formats.

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 Gig 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



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

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

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

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FOR INFORMATION CIRCLE 138

LAST WORD

Wake Up Call

Don't Hit the Snooze Button on Your Future

by Mojo

Here's a fictional transcript of the kind of conversation I've been having lately:

MOJO: Hey, friend, how's it going?

FRIEND: Oh, all right, I guess.

MOJO: What's eating you? Sounds like something's wrong.

FRIEND: It's nothing new. I hate my job!

MOJO: Yes, you've mentioned that many times. In fact, you've never really liked it. What is it now?

FRIEND: Oh, the same. I can't stand the people, I don't enjoy the work, and it's just not going anywhere.

MOJO: Well, don't sweat it—there are plenty of other places you can work doing [insert meaningless, middle-class job here].

FRIEND: That's just it! I don't want to do this anymore!

MOJO: I see. So, what do you *want* to do?

FRIEND: I don't know.

MOJO: Well, what *can* you do?

FRIEND: I'm not sure.

MOJO: Sounds like you're screwed.

FRIEND: I know.

Who have I been having this talk with? A lot of people. Too many. And it's all started very recently! They've all been friends in their mid-twenties or so who just seem lost. After a few of these conversations, I talked it over with a (less troubled) friend, and we worked out what was happening.

It's pretty simple. Let me paint a picture for you: You graduate high school and you go to college. Sometimes people go with an actual goal in mind (med school, law school, Indian Chief school), but most go just to *go*. After all, we live in a society where, unless you go to college, you're a loser. So everyone signs up, most still clueless about where they're going in life.

After four years of partying and enjoying your last run of true irresponsibility, you get out with some kind of degree, maybe in business. Now you have to get some kind of job to support yourself, so, armed with a degree, you snag yourself a good-paying one. Score! You're set.

A year goes by. With it comes a raise, a car, a decent apartment, a few debts. Maybe a steady girlfriend. Things are pretty cool. For the first time, you're on your own and you have some money. In another year or two later, you'll have gotten the real-world scenario down pat. You start to get very bored and look for new challenges. This is when you remember that you swore you would *never* work nine to five and be like everyone else. It will sink in that you're merely working for a paycheck and you have ignored all the hopes and dreams you had while reading *VTU*. A big, fat raise may put these fears to rest for another six months to a year.

Then it hits you. You've become *part of the system*. You start to see through the hazy fog that is the rest of your life: the corporate ladder, a wife and kids, and Sunday Football. You panic and realize that you had better start doing something *now* to avoid this. But there's a problem. You have a life now. You're accustomed to a certain style of living. You can't just quit your job—you need another one first. A job in film or TV, maybe. Unfortunately, you have next to no real experience, so you're going to have to start at the bottom.

Starting at the bottom when you're 25 is not easy. If you're married and have a kid, forget it. It's too late. Move on and learn to appreciate what you have. If you're still single, you *can* do it, but it's going to be tough. It will mean going up against a lot of younger people (who are in college doing what you should have done) and taking a pay cut so severe you'll have to give up just about everything.

Either way, you'll regret not seeing the signs and working harder at pursuing your dreams when they were fresh. Presumably, many of you are at the point now where things are still fresh. THIS IS YOUR ONLY WARNING: DO NOT LET THIS HAPPEN TO YOU. The events I have described are as obvious as a blue sky, yet you don't become aware of them until it's too late. I never even considered this scenario until I saw it happening to other people. When you're young and in college you tend to be very idealistic and assume everything is going to work out just because you want it to.

But it takes more than a healthy desire to make it all happen. You're lucky—most of you probably know what you want to do. Like me, you want to be involved with media: film, TV, music, whatever. Since I was in junior high school I was interested in film making and have always remained highly focused, with a specific goal to work towards. Most people don't have that. They just go through life, hoping they'll find something to fit into. I truly despair for these people, and my heart goes out to my friends who are stuck in this predicament. I smile and nod and do what I can to be supportive, but in the end, their situations are very alien to me. I can't even imagine what it must be like not have goals and dreams.

You are different. Readers of *VTU* have definite aspirations for their future, automatically putting them one step ahead of the game. Don't let it go to waste! Stay focused and work hard now to ensure a future you'll be happy with. Take that internship, commute too far, live with your parents—do it *now* while you still can.

The life as I have described it here is the standard. It's the way most people you know live, have lived or will live. Read it, learn it and remember it. Just don't *be* it!

CD Problems? Meet the solutions:

AsimCDFS v 3.0

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

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

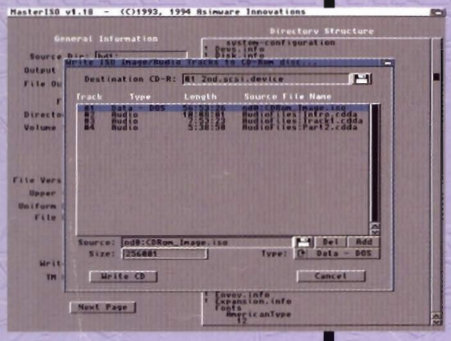
Direct reading of 16-bit audio samples from standard audio CDs is possible with AsimCDFS!

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

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

CD-ROM READING

Master ISO



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

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

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

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

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

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

CD-R WRITING

PhotoCD Manager

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

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

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

PhotoCD Manager works with any Amiga equipped with a CD-ROM drive or a CD^{32}.

PhotoCD Viewing & Slide Show

Texture Heaven

Texture Heaven is a CD-ROM disc filled with 24-bit colour IFF textures and images. Included are 245 woods, 53 marbles, 59 abstract designs, 8 tiles and 18 wilderness sceneries.

Texture Heaven 2

Texture Heaven 2 is our latest CD-ROM texture disc. On this disc, you will find 164 abstract and computer-generated full colour textures. Images are stored in multiple formats.

FOR INFORMATION CIRCLE 126

Asimware Innovations Inc.

600 Upper Wellington Street, Unit D
Hamilton, Ontario, Canada L9A 3P9
Tel: [905]578-4916 Fax: [905]578-3966
E-Mail: info@asimware.com

VIDEO TOASTER

FLYER™

TAPELESS EDITOR

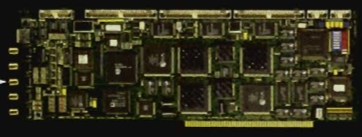
The next big leap forward in video production technology, a non-linear editing system for everyone. Not only is the Flyer the easiest-to-use non-linear editor, but it also has the same capabilities and quality you expect from a production suite with $50,000 video tape decks.

Not JPEG. Not MPEG. The Flyer utilizes a breakthrough technology called VTASC, which was designed from the ground up to put broadcast quality video onto a hard drive.

The Flyer is a powerful tapeless editing system. Record video and audio segments as clips, which you arrange using a simple drag and drop interface. Using the Video Toaster System 4.0 software, add real-time video effects, graphics or text. Press the play button and your video plays back, real-time in broadcast quality. You can even use the Flyer as an animation recorder with LightWave 3D.

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

"The technology of the Flyer will fundamentally change our lives. Now, making changes in your videos is interactive. The results you get are something so much better than anything you could have imagined." Brad Carvey. Free Range Digital Imaging, Inc., Albuquerque, NM.



Your Flyer card is the heart of the new Video Toaster. With your Flyer installed in the Video Toaster Bay™, it becomes the new Video Toaster system. Now, you have a portable field recorder. Plug your camera into the Toaster and record direct to hard drive.

Your new Toaster system also has built-in time base correction with proc amp controls, three digital still stores, a four input production switcher, video processor, luminance keyer, SMPTE time code reader/generator and a single frame animation recorder.

The Flyer installed in the Toaster Bay gives you the added flexibility of running it with your Amiga/Toaster system or any PC running Windows 95 or Windows NT. Everything you love about your Video Toaster Flyer and the freedom to use it anywhere.

"With the Flyer it is phenomenal how fast and easily you can create A/B roll edits. I can put together 5 shots with dissolves in 5 minutes, before the Flyer, that same job would have taken an hour." Rex Olson, Rave Video Productions, Burbank, CA.

NEWTEK INCORPORATED

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OUTSIDE THE U.S.A. CALL 1-913-228-8000
FAX 1-913-228-8099
INTERNET: WEB PAGE HTTP://WWW.NEWTEK.COM
ANONYMOUS FTP SITE FTP.NEWTEK.COM

Flyer Requires: Amiga 2000 or 4000, Video Toaster Card and Video Toaster System 4.0 software with 9MB of RAM minimum, 100MB free on hard drive. Single SCSI II drive required for LightWave recording. For A/B roll editing two SCSI II drives and one SCSI drive is required. Input from video tapes must be time base corrected. Consult your dealer to configure a system suited to your needs. Some features require an Amiga with the AGA chip set. Specifications subject to change without notice. Amiga is a trademark of Commodore, Inc. Windows 95 and Windows NT are trademarks of Microsoft Corp. Video Toaster, LightWave 3D, Video Toaster Flyer, Video Toaster Bay, ToasterPaint, ToasterCG and Toaster are trademarks of NewTek, Inc. Design FryeAllen, Inc. *© NewTek, Inc. 1995.*