

VIDEO TOASTER USER

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

DECEMBER 1996

SURFACE EFFECTORS

The Coolest New
LightWave 3D Plug-in

REVIEW:
DKB's WildFire
'060 Accelerator

TROUBLESHOOTING
Toaster Start-up Jams

a Miller Freeman, Inc. magazine



The Video Toaster, Video Toaster Flyer and
LightWave 3D are registered trademarks of
NewTek, Inc.



500 Mhz Render System Under \$5000!

**ALPHA
GENERATION**

Once again, Carrera raises the price performance bar! Carrera is the leading supplier of Alpha based systems used in popular computer generated graphics. Starting at only **\$4,995** you too can own the same system that Amblin Imaging used to win the prestigious **EMMY AWARD** for **STAR TREK**...Except with more power!! The Cobra EV56 harnesses the power of the 21164 Alpha microprocessor, with its four instruction, super scalar design, and synchronous pipeline 9ns



cache. In addition you get 64 Megs of 256-bit RAM with 1 Gigabyte/sec. of rendering bandwidth, 2 Gigs of disk, 12 speed SCSI-2 CD-ROM, a 2D accelerator with 4 Megs of RAM. Starting with a SPECfp92 of over 1000, the Cobra EV56 shreds through complex rendering applications. The Cobra EV56 continues to be the favorite choice for Lightwave users. Choose from systems ranging from 500 Mhz and beyond!. More power, more value, and more flexibility, all from Carrera.



NEWTek
INCORPORATED

<http://www.carrera.com>
Carrera Computers, Inc.

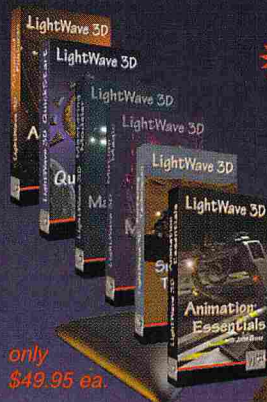
23181 Verdugo Drive, Bldg 100 • Laguna Hills, CA 92563 • 1-800-576-RISC • 714-707-5051 • Fax 714-707-5053

Star Trek, Lightwave, Windows NT, NewTek, and Carrera Computers are registered trademarks of the respective companies.
©1996 Carrera Computers, Inc.

FOR INFORMATION CIRCLE 107

LEARN FROM THE EXPERTS!

Take a Private Lesson With These Hot New Videos



only
\$49.95 ea.

NEW The LightWave 3D Essentials Series

Learn the fundamentals of LightWave 3D, cut months off your learning curve and start animating like a pro. Top CGI artist John Gross guides you through all aspects of modeling and animation. From 3D basics to advanced tips and tricks for creating stunning 3D animation. This series is a must for every LightWave 3D artist.

- LightWave Quickstart
- Animation Essentials
- Mastering Modeler
- Surfacing Techniques
- Advanced Features
- Motion Magic



John Gross

Top animator for Star Trek Voyager, Sliders, seaQuest DSV and founding editor of LightWave Pro magazine.



Ron Thornton

3D innovator and Emmy award winning CGI design and effects artist for Babylon 5, and creator of the Hypernauts television series.

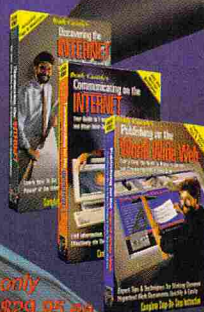
The Creative Magic of Ron Thornton

Explore cinematic CGI as the wizard of 3D animation reveals the secrets of digital special effects. Learn award winning techniques with LightWave 3D and Adobe Photoshop for modeling, surfacing, image compositing, creating photorealistic scenes and adding special effects. This expose offers incredible insight into computer generated imagery and special effects.

- Spacecraft Model Design
- Spacecraft Surfacing Techniques
- Digital Cinematography
- Cinematic Visual Effects



only
\$49.95 ea.



only
\$29.95 ea.

NEW The Internet Professional Series

The internet is the most powerful communications tool of this century. Now you can uncover all of its riches. From surfing the World Wide Web and global communications to finding free software & information, You'll learn everything you need to be an Internet expert. Discover how to easily build your own Web site in a few hours.

- Discovering The Internet
- Communicating on the Internet
- Publishing on the Internet
- World Wide Web



Brady Caverly

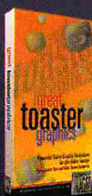
World Wide Web publisher and Internet expert, Caverly takes the mystery out of the Internet and Web page creation.



NEW Flyer Essentials & Advanced Techniques

Complete instruction to this non-linear editing powerhouse. Special effects, tips & tricks, rotoscoping and more.

only \$49.95 ea.



Great Toaster Graphics

Powerful Graphics Techniques with LightWave 3D ToasterPaint & ToasterCG.

only \$49.95



Pyrotechniques

Create realistic explosion, fire & smoke effects in LightWave 3D. Hot techniques used by the pros.

only \$49.95



Pro Flying Logo Techniques

Broadcast techniques in modeling, surfacing & animation for high quality logos.

only \$49.95

Desktop Images

P.O. Box 10908 Burbank, CA 91505
818-841-8980 fax 818-841-8023
email - sales@desktopimages.com
add \$4.95 S&H for first tape plus \$1.50 each additional tape. CA residents add sales tax.
For PAL add \$5.00 per tape

LightWave 3D, Video Toaster, ToasterPaint, ToasterCG are trademarks of NewTek, Inc. Photoshop is a trademark of Adobe Systems, Inc.

24 Hour Order Hot Line!

1-800-377-1039

On-Line Order Catalog

<http://www.desktopimages.com/desktop/>

30 Day Money Back Guarantee!



mastering the tools of tomorrow

LIGHTWAVE 3D™

Turn on your TV.

Star Trek: Voyager

seaQuest DSV

Babylon 5

Sliders

Hercules: The Legendary Journeys

Unsolved Mysteries

The Tonight Show with Jay Leno

RoboCop: The Series

VR5

Weird Science

Star Trek: The Next Generation



©1995 AMBLIN IMAGING



©1995 MCA/UNIVERSAL



©1995 AMBLIN IMAGING



©1995 CINESTASIA

The professional standard in 3D Graphics for Windows, Windows NT, Silicon Graphics Inc., DEC Alpha, MIPS, and Amiga Platforms.

FOR MORE INFORMATION CALL
1-800-847-6111

NEWTEK
INCORPORATED

Outside the U.S.A. call 1-913-228-8000
FAX 1-913-228-8099
WEB PAGE [HTTP://WWW.NEWTEK.COM](http://WWW.NEWTEK.COM)
ANONYMOUS FTP SITE [FTP.NEWTEK.COM](ftp://NEWTEK.COM)

LightWave 3D is a trademark of NewTek, Inc. Amiga is a trademark of Commodore. DEC Alpha is a trademark of Digital Equipment Corp. MIPS is a trademark of Silicon Graphics, Inc. Windows, Windows NT are trademarks of MicroSoft, Inc. © NewTek, Inc. 1995. Design, FryeAllen, Inc.

FOR INFORMATION CIRCLE 138

VIDEO TOASTER USER

DECEMBER 1996 VOLUME 6 NUMBER 12

FEATURES

26 MAC CATCHES THE WAVE

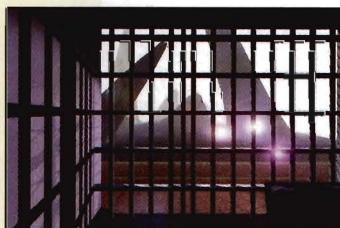
by Thomas Pedyorak
Just as LightWave 3D for the Mac starts to hit the shelves, here's the preview we've all been waiting for.



page 26

32 MAKING TIME COUNT

by Rosemary Picado-Corral
The Audio/Video Technicians of Oregon State Penitentiary are making their time count with the Toaster, creating videos to help at-risk youth stay on the straight and narrow.



page 32

38 TOASTER TROUBLESHOOTING

by Chuck Baker
Get the scoop on Toaster start-up problems from the NewTek technical support guru himself! Part one of an in-depth two-part series.



Cover Image Michael Sherak, Interplay Productions, Inc.
Design by FryeAllen, Incorporated

VIDEO TOASTER USER Vol. 6, No. 12 (ISSN 1075-8704) is published monthly by Miller Freeman, Inc., 600 Harrison St. San Francisco, CA 94107. A one-year subscription (12 issues) in the U.S. and its possessions is \$36; Canada/Mexico, \$48 (U.S.); Foreign, \$76 (U.S.). Allow 4 to 6 weeks for first issue to arrive. Periodicals postage rates paid at San Francisco, CA, and additional mailing offices. POSTMASTER: Send address changes to **VIDEO TOASTER USER**, 411 Borel Avenue, Suite 100, San Mateo, CA 94402. For quality reprints in quantities of 500 or more, contact Reprint Coordinator, Entertainment Technology Group, Miller Freeman, Inc., 411 Borel Ave. Suite 100, San Mateo, CA 94402. Phone (415) 655-4120, Fax (415) 358-8891.

COLUMNS

- 6 **TOASTER TALK**
by Joe Tracy
- 10 **TOASTER POST**
by Burt Wilson
- 12 **THE FLYER SUITE**
by Joe Tracy
- 14 **DR. TOASTER**
by Dan Ablan
- 16 **TAMING THE WAVE**
by David Hopkins
- 22 **CYBERSPACE**
by Geoffrey Williams
- 24 **SLICES**
by James Hebert
- 86 **LAST WORD**
by Mojo

QUICKVIEWS/REVIEWS

44 SURFACE EFFECTORS

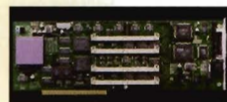
by Erik Flom
Learn how to get the newest and coolest LightWave 3D plug-in available only on the Internet



page 44

50 FIRED UP

by Doug Johnson
DKB's '060 WildFire accelerator. Is it right for you?



page 50

52 DIGITAL MOTIONS

by Joe Tracy
Check out Matrix Production's Digital Motions. It's more than just moving backgrounds.



page 52

TUTORIALS

54 PUMP IT UP

by Chris Seiler
Learn the tips and tricks of the special interest video world from a real pro and his quirky new workout video.



page 54

58 HAPPY DAYS AGAIN

by Mario Cascio
Create a great video intro with that retro *Happy Days* look using ToasterPaint and the Flyer.



page 58

DEPARTMENTS

- 8 **NEW PRODUCTS**
- 68 **ADVERTISERS INDEX**
- 78 **DEALER SHOWCASE**
- 81 **MARKETPLACE**
- 82 **CLASSIFIEDS**

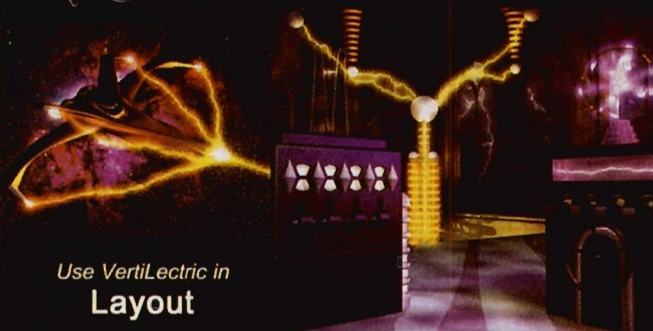


page 8

VertiElectric

Special Effects Plug-in
for LightWave 3D

\$99.⁹⁵



Use VertiElectric in
Layout

Electrifying
LOGOS

Use VertiElectric in
Modeler

Strike objects as they move through a scene.
Multiple sources and targets.

You can have up to 1000 sources and up to 2000 targets.
Individual bolt settings for each target in the scene let you specify:

Surface: (Apply any LightWave surface to lightning bolts.)

Range: (How close a target must be to its source to get a strike.)

Twist: (How 'jagged' the bolt is.)

Segment length: (Level of bolt detail.)

Branches: (How many branches are in the bolt.)

Shape and Branch seeds: (Make each bolt look unique.)

Strike sequence: (List of when a bolt strikes. Edit it yourself, or let VertiElectric do it for you.)

Save a strike sequence as an envelope. (Sync light flashes to bolt strikes.)

Settings may be easily copied and pasted to other targets in the scene.

Randomize feature for Strike sequence, Shape and Branch seeds make your scenes look natural.

ScreamerNET II compatible.

Generate text written in electric script.

Complete control over bolt creation to ensure 'morphable' bolts.

Extrude-o-bolts: Create bolts with any thickness.

Taper bolts from one thickness to another. (Makes great trees, vines and other plants.)

Make 'curve' bolts for custom rail extrusions & motion paths.

Custom seed settings control bolt shape and branching.

Create bolts with as many branches as you want.

Compatible with LightWave 4.0 and 5.0.

"VertiElectric is such a killer app!"

Felix Kupis,
Westwood Studios

B Blevins Enterprises, Inc.
121 Sweet Ave. Moscow, ID 83843

VertiElectric is a trademark of Blevins Enterprises, Inc. LightWave 3D is a trademark of NewTek Inc.

(800)205-5161 (208)885-3805 Intl.
(208)885-3803 Fax

<http://bei.moscow.com>

FOR INFORMATION CIRCLE 199

VIDEO TOASTER USER

SNEAK PREVIEW

JANUARY ISSUE

Preview: The Flyer Wins
Olympic Gold

Toaster Troubleshooting--Part II

Promix From Prowave

Toaster Enthusiast--Dick Van Dyke

And lots more

COMING SOON!

VIDEO TOASTER USER

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

EDITORIAL

EDITOR IN CHIEF
MANAGING EDITOR

CONTRIBUTING EDITORS James Hebert, David Hopkins, Mojo,
Geoffrey Williams, Burt Wilson and Dan Ablon.

Joe Tracy

Rosemary Picado-Corral

CONTRIBUTING WRITERS

Chuck Baker, Mario Cascio, Thomas Fedoryak, Erik Flom, Doug Johnson,
Chris Seiler.

ART AND PRODUCTION

ART DIRECTION & DESIGN

ART/PRODUCTION COORDINATOR

FryeAllen Inc.

Tarita Whittingham

CIRCULATION

ASSOCIATE CIRCULATION DIRECTOR

NEWSSTAND SALES & MARKETING DIRECTOR

CIRCULATION MANAGER

NEWSSTAND MANAGER

FULFILLMENT MANAGER

FULFILLMENT ASST. MGR.

Perry Fatas

Scott Dunoyer

Frank Ho

Gregg A. Nelson

Paulette Johnson

Rosario Perez

MARKETING

MARKETING MANAGER

PROJECTS MANAGER

COMMUNICATIONS DESIGNER

PUBLIC RELATIONS MANAGER

SHOW MANAGER

Deborah Horowitz

Scott Nelson

Ron Lucas

Chandra Lynn

Ann Halland

FINANCE AND ADMINISTRATION

BUSINESS MANAGER

REPRINT COORDINATOR

Mack Coge

Peggy Clapham

in Miller Freeman
A United News & Media publication

CHAIRMAN/CEO

EXECUTIVE VICE PRESIDENT/COO

SENIOR VICE PRESIDENT/CFO

SENIOR VICE PRESIDENTS

Marshall W. Freeman

Donald A. Pazzur

Warren "Andy" Ambrose

H. Ted Bahr, Darrell Denny,

David Nussbaum, Galen A. Pass,

Wini D. Ragus and Regina Starr Ridley

VICE PRESIDENTS

Pat Cameron (Entertainment Technology

Division), Andrew Mickus (Production),

Jerry Okabe (Circulation)

HOW TO CONTACT VIDEO TOASTER USER

SUBSCRIPTIONS

Mainland USA

All other locations

(800) 274-2430

(913) 841-1631

Fax (913) 841-2624

A 12-issue subscription to Video Toaster User is \$36 (US\$48 for Canada and Mexico, US\$76 overseas). To subscribe with a VISA or MasterCard, call (800) 274-2430. Send check or money order to Video Toaster User, P.O. Box 54251, Boulder CO, 80322-4251.

BACK ISSUES OF VIDEO TOASTER USER

Mainland USA

All other locations

(800) 444-4881

(913) 841-1631

Fax (913) 444-4881

Write to Video Toaster User, Attn: Back Issues, \$9/issue (\$9 overseas). Prepayment in U.S. funds necessary. Make checks and money orders payable to Video Toaster User and send to 1601 West 23rd St. Suite 200, Lawrence, KS, 66046-0127.

VIDEO TOASTER USER EDITORIAL

LETTERS TO THE EDITOR All suggestions and comments about Video Toaster User are read by our editors. We reserve the right to edit your submissions; letters must include your name, address and phone number. Direct all correspondence (by mail or electronically) to Letters to the Editor.

QUESTIONS AND TIPS Direct your Toaster-specific questions or tips to VTU Questions.

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

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

Miller Freeman Inc.

411 Borel Ave.

Suite 100

San Mateo, CA 94402

Phone: (415) 358-9500

Fax: (415) 358-8891

Video Toaster User is a publication of Miller Freeman, Inc. Video Toaster User is an independent journal not affiliated with Newtek, Inc. Video Toaster and Toaster are registered trademarks of Newtek, Inc. Miller Freeman, Inc., its employees, representatives and freelancers are not responsible for any injury or property damage resulting from the application of any information in Video Toaster User magazine. Printed in the United States of America. Copyright © 1996 Miller Freeman, Inc. All rights reserved.

PRINTED IN THE USA

MILLER FREEMAN

OPENS MARKETS



Computer/Multimedia
Electronics
Information Technology
Software Development
Sports & Sportswear
Travel
Music
General Merchandise
Jewelry & Gifts
Pulp & Paper
Wood Technology
Building
Design
Real Estate
Financial Services
Healthcare Communications

With 76 magazines in 16 markets and 85 related trade shows, Miller Freeman offers you a world of opportunities to target your markets.

For more information, contact our worldwide website, or our corporate headquarters at: 600 Harrison Street, San Francisco, CA 94107. Phone: 415.905.2200.

un Miller Freeman
A United News & Media company

<http://www.mfi.com>

TOASTER TALK

Learning From Radio

And Farewell to a Great Columnist



by Joe Tracy

The other day I had my portable Video Toaster Flyer system (refer to last month's Toaster Talk) at a top local radio station where I was recording a TV commercial for them. One of my policies when producing TV commercials for radio stations is to have the radio station provide the audio track for the commercial, since audio production is their field of expertise. On this particular shoot, the employees were admiring my Flyer unit and how far technology has taken video and television productions. At the same time, however, I was standing in their production studio admiring their equipment, amazed at how far technology has taken radio stations! Reel to reel decks at radio stations appear to be going the way of the dinosaur as computer and digital technology lead them to new pastures.

Radio Active

"It used to take me six hours to do a spot, but now it takes less than an hour," commented Mike Carter, the station's operations manager. Using programs like Edit Plus and SAM, radio stations are cutting down on production time and improving in quality. Audio is recorded to hard drives, like the Flyer, then virtually unlimited layering and multitasking allows their creativity to soar with just the click of a few buttons. Pre-recorded interviews are run through the system to eliminate pauses and audible nervous ticks, like the word "uh." If an announcer's voice has already been recorded, but a word was misspoken, another person can repeat that word and *voice matching* capabilities can make it sound like the original announcer's voice.

It is the great care that radio stations give to audio production that should make all of us perk up and pay attention. After all, it seems so easy to get caught up in the visual fascination of our video, television and animation productions that sound sometimes gets neglected. But when the two are brought together as equal entities, the result you get is pure power. It is the type of power you felt when the T-Rex was catching up to the jeep in *Jurassic Park* or when the tornado was ripping apart the drive-in theater in *Twister*. In fact, next time you see a breaking news story on television (like the Olympic bombing or PanAm crash), listen and you'll notice that even news stations are now playing dramatic music very lightly behind their breaking reports to build the emotions of the viewers.

What a Year for LightWave 3D!

When speaking of pure visual power in animation and graphics, only one name rings a bell for me—

LightWave 3D. This year nothing stopped LightWave 3D's rapid platform expansion in its quest for compatibility. Which platforms can it now be found on? Intel (Win 95 & Win NT), Alpha (Win NT), MIPS (Win NT), SGI, Amiga, and Power Mac. The most recent addition to the LightWave 3D family of systems was the Power Mac, and NewTek believes that LightWave 3D will be its key application for creative artists. In fact, there's not much keeping it from being the key application on every platform!

From TV to weddings, movies to science, and hobbyist to professionals, LightWave 3D captured the imagination of thousands this year, and the dream of chief LightWave 3D programmer Allen Hastings to see LightWave 3D on TV every day is far more than a reality. Congratulations Mr. Hastings and Mr. Ferguson.

LightWave 3D was also upgraded to 5.0 this year, and what an upgrade it was! Open GL allows the user to see objects in solid shaded views while modeling and animating. The effects of lights are now viewable in real time. MetaNURBS performs real-time transformations between polygons and splines, enhancing the user's ability to create organic 3D objects. Joint compensation and muscle flexing was added to Bones. MetaBalls allows spheres to be utilized to quickly approximate complex shapes. All in all, there were close to 200 improvements to LightWave 5.0 which sells for \$1495 on all platforms, except SGI (prices vary on SGI). With such vast improvements and recognition in 1996, one can only wonder what 1997 will bring.

A Great Columnist Departs

For the past couple of years, *Video Toaster User* has been blessed by the presence of Burt Wilson who has faithfully presented his industry and Toaster knowledge in the monthly "Toaster Post" column. Due to new endeavors, however, Burt is moving onward, and although he won't be doing "Toaster Post" anymore, he has promised to make article contributions when time and software advancements allow. I know I speak for most Toaster owners when I say that Burt's willingness to share his knowledge with thousands month after month has been greatly appreciated. His final column appears in this issue. "Toaster Post" will continue and an introduction to the new columnist will appear in an upcoming "Toaster Talk."

Happy Holidays! Everyone at *Video Toaster User* wants to wish you a very happy, safe and enjoyable holiday season!

Reach Joe Tracy via e-mail at jitracy@main.rosenet.net.



"THE LIGHTWAVE INTERFACE IS SO INTUITIVE I NEVER WASTE TIME LOOKING FOR TOOLS, THAT MEANS MORE TIME FOR BEING CREATIVE. NEWTEK HAS ALWAYS LISTENED TO THEIR USERS NEEDS, AS A RESULT LIGHTWAVE IS ARTIST FRIENDLY AND THE RENDER QUALITY IS AMAZING!"

Steve Carpenter

Senior Animator

Will Vinton Studios

When Will Vinton Studios was ready to take on a series of spots for the new Blue M&M's® character project they had just one problem; not enough animation work stations. So what did they do? They got smart, got LightWave 3D, and got up to speed, **FAST**. LightWave's intuitive interface allowed Will Vinton Studios to quickly pull its talented but diversely experienced animation crew onto a common 3D platform capable of meeting the production deadlines for the commercials. With tools like inverse kinematics, bones, and MetaNURBS™ Will Vinton animators easily translated years of character animation experience into the M&M's® characters they created in Lightwave.

Will Vinton Studios knows a lot about making clients happy. They know that whatever the medium: clay, copper, cel, or 3D, the quality of the final image is of the greatest importance. With LightWave 3D, Will Vinton animators created realistic textures for the characters and duplicated live action lighting and atmosphere. LightWave's render engine has been refined for six years. With its full ray tracing, shadow mapping, antialiasing, motion blur, depth of field and many other real world lens effects, Will Vinton Studios seamlessly integrated the characters into their live action worlds. Will Vinton Studios and so many other facilities use LightWave 3D! *Shouldn't you?*

FIVE POINT ZERO LIGHTWAVE 3D

THE PROFESSIONALS' CHOICE 1-800-TOASTER

Windows 95, Windows NT, Silicon Graphics, Inc., DEC Alpha, MIPS, Amiga.
Coming soon to a PowerMacintosh® near you.

FOR INFORMATION CIRCLE 138

NewTek
INCORPORATED

Outside the U.S.A. call 1-913-228-8000 • FAX 1-913-228-8099
WEB PAGE [HTTP://WWW.NEWTEK.COM](http://www.newtek.com) • ANONYMOUS FTP SITE [FTP.NEWTEK.COM](ftp://ftp.newtek.com)

LightWave 3D is a trademark of NewTek, Inc. DEC Alpha is a trademark of Digital Equipment Corp. MIPS is a trademark of Silicon Graphics, Inc. Windows 95, Windows NT are trademarks of Microsoft, Inc. "M&M's", "M" and the "M&M's" characters are registered trademarks of Mars Incorporated, Claymation is a registered trademark of Will Vinton Studios, PowerMacintosh is a registered trademark of Apple Computer, Inc. Design FryeAllen, Inc. © NewTek, Inc. 1995.

**Compiled by
Rosemary
Picado-Corral**

ProMix From ProWave

ProWave has released the next tool in a series to support the Video Toaster Flyer. ProMix™ adds the capability of infinite levels of audio mixdowns to your Flyer production. Additionally, ProMix can add audio to an existing video clip or animation, replace audio from one video clip onto another, join two or more

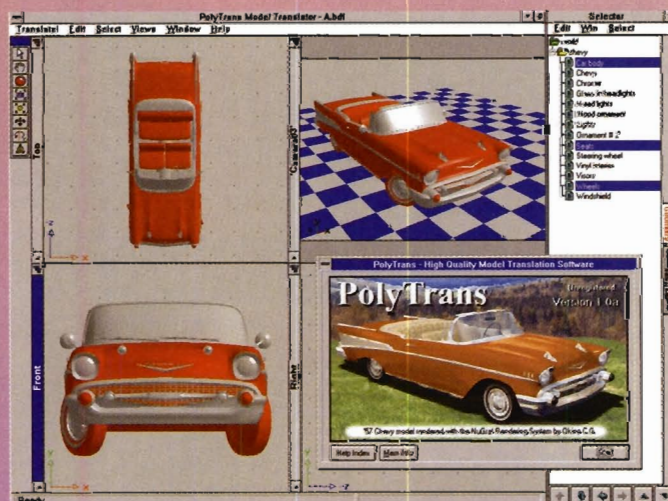
ProMix also includes Audio Black Box, a complete audio import/export utility for the Flyer. It supports AIFF, 8SVX,



FOR INFORMATION CIRCLE 1

Digital Motions Volume 1™ offers 20 broadcast-quality royalty free animated backgrounds. Each

FOR INFORMATION CIRCLE 2



Phone: (905) 672-9328

PolyTrans is a 3D model translation and interactive viewing tool that allows arbitrary 3D model data to be imported from external sources, processed, manipulated and exported to various industry standard 3D file formats. PolyTrans con-



verts every aspect of a 3D model, including shading parameters, texture mapping coordinates and texture map information. Just load and render.

Import from LightWave 3D Studio, Alias triangle, ACAD 3D, DXF, IGES (NURBs and polygons), Imagine, Haines NFF, and more. It also uses plug-in information. It can import multiple files at the same time with auto-format filters. PolyTrans is also designed to translate very large and complex 3D scenes.

FOR INFORMATION CIRCLE 3

What A View

Product: BetaVue™
Price: \$295 plus \$9.50 S&H
Description: Picture/Sound Playback Adaptor to be used with Sony Betacam Mobile-Video Productions 7315 Wisconsin Ave. Suite 1300 West Bethesda MD 20814 Phone: (301) 656-2525 FAX: (301) 656-4343

The BetaVue™ Picture/Sound Playback Adaptor is designed to be used in the field or in the studio to connect a Sony Betacam Camcorder to a video monitor for on-screen monochrome playback of Betacam videotapes.

With the BetaVue connected between the camcorder and a video monitor, the operator can view on-screen a color camera picture (E-E) with the camera's character generator status displays, and view on-screen the playback of videotapes.

BetaVue is portable, measuring 2.5" x 3.5" x 1.25" and weighs only 4.01 oz. It is made of high impact plastic and plugs into the camera's existing connector and relays video out via a BNC connector to a video



monitor. The built-in compact audio amplifier-speaker with volume control is connected to the camera's ear-

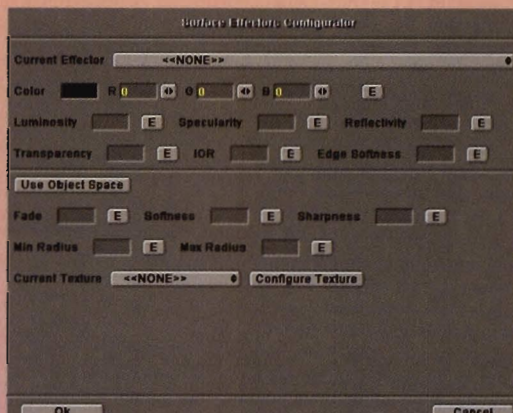
phone jack.

FOR INFORMATION CIRCLE 4

Effect Your Surfaces

Product: Surface Effectors
Description: Plug-in for LightWave 3D
Price: \$60- Intel \$80 for all other platforms
Distributed only on the Internet by Prem Subrahmanyam

Web Page at: <http://www.noblestar.net/~prems/surfeff.html> Or, contact: prems@star.noblestar.net



The Surface Effector Plug-in allows LightWave 3D animators to animate surface parameters such as Specularity, Luminosity, Transparency, Fractal Noise, and Index of Refraction. Surface Effectors can also make an animated character blush with emotion, hit a vehicle with a barrage of bullet holes and even create burning parchment, like the old *Bonanza* TV series.

A Surface Effector uses a Null Object to create an area of effect that the animator can use to effect various levels of parameters. The area to be effected is named with definable settings, so the animator is free to effect any parameter in the surfaces control panel. See Erik Flom's review on page 44.

FOR INFORMATION CIRCLE 5

Particles for LightWave 3D

Product: ParticleType
Price: \$120
Description: Plug-in for LightWave 3D, Intel and Alpha
MetroGrafix
625 Newton Dr.
Lake Orion, MI 48362
(810) 693-5134

ParticleType from MetroGrafix is a replacement for the built in small,

medium and large dots LightWave is currently equipped with. With five new particle types, ParticleType can blur, motion blur, and field render particles. ParticleType is also useful for creating bubbles and lensflares.

FOR INFORMATION CIRCLE 6

Digital Brushes for LightWave

Product: Digital Art Brushes
Price: \$120
Description: Plug-in for LightWave 3D, Intel and Alpha
MetroGrafix
625 Newton Dr.
Lake Orion, MI 48362
(810) 693-5134

Digital Art Brushes from MetroGrafix introduces Ray-painting for LightWave 3D. DAB intercepts the surface shading and dabs paint in a buffer, the composites it again into the animation. Brushes are user definable as are surface convolutions. Select brushes randomly or select by the image's luminosity. The user can randomize color and even transparency.

FOR INFORMATION CIRCLE 5

VTU

PRODUCT ANNOUNCEMENTS

Announce your new products in

Video Toaster User.

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

Video Toaster User

attn: New Products Editor

411 Borel Ave. Suite 300

San Mateo, CA 94402

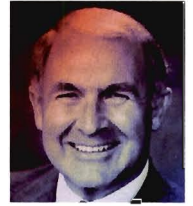
For more information, call (415) 655-4175.

TOASTER POST

We Part to Meet Again

A Fond Farewell—But not Goodbye

by Burt Wilson



Well, here it is time to say good-bye. I am reminded of a saying from the Ancient Wisdom: "We meet in order to part, and we part in order to meet again, so rejoice at the parting." That seems to best represent my sentiments at this time. I am happy to have been of service to you and I thank you for all the kind letters and e-mail you have sent me. My mission has been to empower Toaster users and from what you have told me, my mission has been accomplished.

I hope to contribute an article here and there as new tips and themes occur to me, as I still feel the

Relying on one would have put me out of business. I congratulate NewTek for righting all the wrongs in the original release software and I believe the Flyer is now able to fulfill its promise to the video professional.

My chief concern has always been that just having the necessary tools—such as a Toaster or Flyer—does not make one a commercial producer. There are other, esthetic things if you will, that go into the process. You have to know how to write a commercial script for video. You have to know the craft of writing a selling a commercial. You have to have a sense of design so you can do good graphics. You have to know how to do pre-production planning to get the shots you need, in order to edit to your script. You have to know how to market and how to price yourself. You have to know how to be a video business person.

I have tried to address all of these things in both my column and my book, *Complete Post Production with the Video Toaster*. If you have a collection of my columns for the past two years, you have an insight into these subjects. They comprise over 30-years of TV and video post-production know-how. I thank VTU for giving me the opportunity to share them with you.



Watch for Burt Wilson's cable TV show, *Future Consciousness*, as well as Burt on the lecture circuit with his "Ancient Wisdom for the 21st Century" series.

Toaster is a valuable post-production tool. I thank NewTek for creating the Toaster and I do not hesitate to say that this wonderful product has given me a life.

On the other hand, there are just so many things you can talk about on version 3.1 and I have run out of things to say. Frankly, I do not believe 4.1 is a viable "upgrade" for the post-production professional. Let me point out that it might be the greatest thing since pitted prunes for other areas of production, but for day-to-day post-production in the commercial field, it just takes too long to do what should be really easy functions.

Also, I am not a Flyer owner. I think the smartest thing I ever did was not jump on the Flyer bandwagon when it first came out. Again, I have nothing against the Flyer (I would love to have one), but I simply did not have time to work around all the bugs in it in the beginning when I had daily commercials to produce.

Enter The Digital Age

Now it is time to enter the digital age. New ways of doing things are upon us. Yes, I intend to stay up to date and enter this age myself, but not until there has been a shake-out of all the non-linear systems on the market today. In my opinion, the Flyer will survive that shake-out. But the technology is moving so fast that I think one has to be prudent. After all, they are just a short time away from developing digital 3-D.

I am convinced that before the year 2000 we will be making commercials that will be broadcast from our home TV set into the middle of the room where 3-D holograms will perform on our living room rug right before our eyes, much the same way that R2D2 "broadcast" the message from Princess Leia in *Star Wars*. Perhaps George Lucas is working on this very thing right now! As I have said before, digital is the future, but digital holograms are the ultimate end result to this technology. Watch for it.

"I may not make any friends with this, but 3/4" SP is just as good as Betacam, and no one except a real Tekkie engineer can tell the difference."

Some Thoughtful Tips

For the immediate future, I think a wonderful combination for producing first-class TV commercials is the Sony VX-1000 (with a FireWire) and the Video Toaster Flyer. I know people who run video rental business and they tell me that the VX-1000 is ruining their Betacam business. All true stuff. In the future, the flowering of digital cameras will lower the price of Betacam equipment just as the emergence of Betacam brought down the price of 3/4" equipment.

I may not make any friends with this, but 3/4" SP is just as good as Betacam, and no one except a real Tekkie engineer can tell the difference. I have a friend who has a client who insists everything be on Betacam. He shoots it in 3/4" SP and then transfers it to Betacam and nobody knows the difference! But you do have to



Wilson at home on the set.

have a camera with 700 lines of horizontal resolution or higher.

Non-linear digital editors such as the Flyer have given new life to SVHS and Hi8 formats, but a good 3/4" deck will still capture more color. I look for Hi8 and SVHS to be strictly home desktop formats (prosumer) in the future. The coming shakeout of non-linear editing systems will force those companies who want to remain play-

ers in the non-linear arena to consider the quality of the final product first. That, combined with ease of use, will be the determining factors of those systems who will survive. Here, I'm talking about the low-cost system, not the high-priced systems the movie studios use. Let's face it, even the movie studios will be all digital in the near future.

Be aware of something here. The movies put 3-D on the shelf because they found that they could get people into the theaters to see 2-D stuff with lots of action and big stars. The only reason we do not have 3-D in the movies today is that the great American public has not demanded it. Why should the movies go to the expense of converting to 3-D when they don't have to? But 3-D digital TV will change all that. Mark my words, the movies will convert in the wink of an eyelash when they start losing more customers to the new format. This is called *free enterprise* at work.

Cable systems are starting to accept all formats—even D2—but 3/4" will remain the format of choice for the same reason that the movies have not yet converted to 3-D. When the digital dish systems start showing holograms in homes, watch cable knuckle under. But for now, they don't have to.

What comes after digital? Your guess is as good as mine. Probably clairvoyance. No, I'm not kidding. We live in an evolving universe and evolution presupposes the relativity of each concept, and that includes communication.

Remember, Nikola Tesla (one of my heroes) said it was possible to modulate the magnetic force field of the earth to where each person could have his/her own individual frequency. All we would have to do is stick a metal pole in the ground (it would be a ground system) attached to a suit-

able tuner and "tune in" the frequency of the person we want to communicate with. I have magazine articles showing such a method was used in the early 1900's between two people. I suppose AT&T bought it and put it on the shelf.

What Am I Going To Do?

At the age of 63, I'm starting a new phase in my life. I am going to keep on doing videos and commercials and using my Toaster, but I am also planning to segue into lecturing on metaphysics, my true love. From the time I was 10 years old I had the feeling that the universe was a knowable thing and that metaphysics held the key to that knowing. By the time you read this, I will have launched my lecture series, "Ancient Wisdom for the 21st Century," in which I bring metaphysical concepts from

the past into the present and future for the purpose of allowing a person to get a handle on what's happening in their life and how to best cope with change. If you want to know more about it, visit my website at <http://home.earthlink.net/~futurecon>.

And so my many friends, it has come time to part, that we may meet again. Thank you for allowing me to be a part of your life and God Bless to all of you. **VTU**

Burt Wilson is a video professional in Southern California and the author of Complete Post Production with the Video Toaster. You can reach him at burtwilson@aol.com.

"What comes after digital? Your guess is as good as mine. Probably clairvoyance. No, I'm not kidding. We live in an evolving universe and evolution presupposes the relativity of each concept, and that includes communication."

| EDITORIAL EVALUATION | | |
|--------------------------------------|----------------------|--------------------------|
| Circle number on Reader Service Card | | |
| I found this article: | | |
| Very Useful Circle 021 | Useful Circle 022 | Not Useful Circle 023 |

THE FLYER SUITE

High-Flying Tips

From Sound Effects to ARexx Shortcuts



by Joe Tracy



During late summer, the Armed Forces released a series of TV commercials aimed at recruitment. One of the TV commercials showed planets flying by until the end of the spot when an extreme close-up on Earth pulls out to show the planet hovering above a person's hand with others watching in amazement. This result can easily be achieved with the Video Toaster Flyer and

LightWave 3D. Here's how:

As the World Turns

1) Record a clip with your main subject facing left and holding out his/her right hand (straight out, slightly bent at the elbow). Now put people on either side of



the subject. Have them point to a position slightly above the person's hand with each having a look of amazement.

2) Follow my first tutorial in October's *VTU*, up through Step 8, to successfully load the Flyer clip into LightWave 3D's background.

3) After completing the above steps, select Objects from the top menu in LightWave's Layout screen. This brings up the Object Panel. Select Load Object. Scroll down to the directory titled Earth and select it. Now select the object EarthHIRESBumpy and hit OK. Hit Continue on the next screen. If you've done everything correctly, you will have Earth in the middle of your screen and your Flyer clip behind it.

4) Now the fun begins. Under the Layout viewing screen you'll find the number 0 in a box called Current Frame. Change that number to 1 and press return. It will take a few seconds as it loads the next Flyer clip background image.

5) Along the left hand column, make sure that

Camera is selected in the View area, Objects in the Edit area and Move in the Mouse area. Once that is done, you can use your mouse to move the Earth object into position over your subject's open hand. The left mouse button will move the object away from and towards you (Z) and side to side (X). The right mouse button moves it up and down (Y). Once the Earth object is positioned above your subject's hand, so that it appears that it is floating, go below the Layout viewing screen and select Create Key. Make sure the frame is created at 1, then hit OK.

6) Hit F9 to view the results. Congratulations! You've now recreated a scene similar to that in the Armed Forces TV commercial. Let's take it a step further.

7) Determine what the last frame is in your Flyer clip. For this tutorial we will say frame 150 (five seconds). What we are going to do now is make the planet rotate above the person's hand.

8) On the left hand side in the Mouse area, select Rotate. A couple of lines down you'll see a H P B. Deselect the P and B so that only the H is highlighted.

9) Move your mouse over the object and hold down the left mouse button. Move the mouse to the right and the planet will begin rotating. Only move it a fourth of a rotation, then stop. Select Create Key and type in 150 (the last frame of the Flyer clip). Hit return. When your scene is rendered, Earth will now be hovering above your subject's hand and slowly rotating while everyone looks on in amazement!

Getting More Creative

While having Earth hover above a friend's hand is impressive, there are more areas you can experiment with to make it even more amazing. By working with Object Dissolve (September's Flyer Suite, bottom of page 11), you can have the Earth begin invisible until your main subject runs his/her left hand in a semi-circular motion above his/her right hand, then Earth can "magically" appear. Another effect would be for your subject to move his/her right hand up and down and have Earth remain above it. You'd do this by creating keys at strategic points and because your background clip is visible, placement of the object for your new keys should be simple.

Using LightWave 3D and CG Together

Using objects, textures, surfaces, and images in LightWave 3D can aid you in creating some very impressive backdrops. But what about using those backdrops in CG? No problem!

1) Create your backdrop in LightWave 3D and ren-

der it out (F9). It should be displayed on your program monitor.

2) Go back to the Switcher screen and then into ToasterPaint.

3) On the bottom menu, select Disk. Now on the right hand side select Import Frame. Your LightWave 3D creation will now be imported into ToasterPaint.

4) On the same menu, under the Save column, select Framestore. Give your Framestore a name and click Save Frame.

5) Return to the Switcher screen then go into CG.

6) Select the very first button that says Key. Now select the second button (color). This returns you to the main CG screen.

7) Click the color palette (the third button). Click the first button (the brush). On the second row, click the third button that says PAINT. Now click the next button that has a picture of a disk on it with an arrow. You are now presented with a panel called Select Background Image. Navigate to your framestores directory and select your framestore. Hit OK. Your LightWave backdrop has now successfully been loaded as a background image in CG. To see it, hit F9 to render and F10 to display. You can now add text, brushes, etc. to create the look that you want.

CG ARexx Scripts

Since my last column, I've given you a month to play with the CG ARexx scripts. Here are a couple of my favorites (besides the one I talked about last month) and how to use them (remember that Alt F1 brings up the CG ARexx Panel):

BumpLines - Let's say that you've typed out four lines of text, but want to put more space between each line. Select the BumpLines script and tell it how much space to put between each line (the higher the number, the greater the space). Now hit continue and it will automatically create the spaces! You can adjust the number according to your needs.

ChartFont - You'll need to use a blank screen for the display this command will generate. When you select the ChartFont ARexx script, it will prompt you to choose a postscript font. After selecting one, it will display for you the Alt commands for bringing up special characters, with that font, like copyright and registered emblems.

Import - This is one of the best CG ARexx features. First create a box that

you'd like an image to appear in. Make sure the box is selected and run the Import script. It will take you to the images directory and ask you what image you want to incorporate. Select one. It will ask if you want to preserve the aspect ratio of your picture and if you say yes, it will make the appropriate adjustments to your box. You now have the image you selected in the box on your CG screen!

SizeUp and SizeDown - Are all the words on your screen too large or too small? Just use the SizeUp and SizeDown scripts and it will appropriately make adjustments in increments of 5. So a font that has a height of 40 would be adjusted to 35 when you use

"I've only touched on a few of my favorite CG ARexx features. Experiment with the others to see if they fit your needs."

the SizeDown script. Use it again and it lowers to 30.

SpellCheck - This script spell checks your document and gives you suggested changes for misspelled words. You can even add words to the dictionary! If you want to remove a word from the dictionary, use the RMWord script. Other scripts for the spelling checker can be found in the SpellCheck_Support directory.

CGhaiku - Beware. If you select this command, it will erase everything on your screen and replace it with a statement that makes little to no sense. It is a good example of NewTek programmers with too much time on their hands or too little sleep. It will bring up a different phrase each time you select it. This can be deleted with no loss to your productivity.

I've only touched on a few of my favorite CG ARexx features. Experiment with the others to see if they fit your needs. If there is one you've experimented with and don't understand, e-mail me and I'll go through it with you.

Sound Effects Made Easy

You may have encountered some frustrations in syncing a sound effect to

one of your video clips, especially if you've had to change the in point of the video clip. There's a much easier method, however, that will always keep your sound effect synced. The secret is to open up the Fine Tune menu of your audio clip and change Lock To from In-Point to Clip. Now go to your video clip and by using the In-Point slider, find the starting point for your sound effect. Write down the in-point number and hit cancel. Now go back to your audio clip and write that number in the audio clips Start Time. What you've done is synced your audio to the clip's timing so that no matter where your in point is, the sound effect will always occur at the appropriate place.

Flyer Quick Tips

Unloading - When you are done using one of the programs, like LightWave 3D, unload it from your project by holding down the shift key and selecting it from the Switcher screen. This will free up memory.

Backup - Before backing up a project, be sure to type VOIDALL in a workbench shell to clean up the temp files.

Move to Next Clip - In your project screen, you can use the + and - on your keypad to scroll back and forth between clips.

Unlocking Clips - After using the edit to audio function, you may decide that you want to start over and rearrange clips, but all your clips have been locked. Select all and then Alt L to unlock them all at once!

Audio Off - If you want some of your clips that have audio to play without the audio, then select those you want to change and hit Alt A. This will turn the audio off. If you want the audio turned back on, use the same command.

Next month we'll look at some ChromaFX and Overlay effects and how to get the most from them. Until then I wish you a very safe and fulfilling holiday season.

VTU

Joe Tracy is editor in chief of Video Toaster User and can be reached at jtracy@main.rosenet.net. He welcomes ideas for future "Flyer Suite" columns.

EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Very Useful
Circle 024

Useful
Circle 025

Not Useful
Circle 026

DR. TOASTER

Stocking Stuffers

Got Removable Media Under the Tree?

by Dan "Santa" Abian



Ho Ho Ho, He He He, and Ha Ha Ha, and all that stuff to you and yours. The holidays so different now from when I was a kid. It seemed like as soon as the Christmas season came rolling around, it took *forever* for the big day to hit. Under the tree I was fortunate enough to find a fun toy or two, such as my beloved "Verti-Bird" helicopter. These days, it's computers, software, video games, and whatever else uses electricity. For the kids of today, I wish them luck. I don't know if they will have as much fun as we had, because they aren't as often called upon to use their imagination. Fortunately for the rest of us today, we love to get computers, software or anything electronic for Christmas.

One of the best things you could find under your tree (or bush, depending on your taste), would be a shiny new Video Toaster with a Flyer and maybe even

ready to be imported into another operating system. By the same token, Adobe Photoshop can read and write the Amiga IFF format, so conversions can be made on a PC or MAC. These are just two examples of programs that can convert images, and perhaps one that you already have can perform the necessary conversions, such as ImageFX. For LightWave users, Scene files, Objects, Motions, Previews, Envelopes, and Images are interchangeable between platforms, so no conversion is necessary. Plug-ins and Macros vary from system to system.

OK, so the files will transfer. But how do you do it? Easy. Here's what I did. First, I hooked up my ZIP drive to my Amiga's external SCSI port. I actually rigged a PC SCSI card that came with my Bernoulli a couple of years ago, because the darn GVP external SCSI never worked. Anyway, with the ZIP hooked up, I popped in CrossDos 6.0 into my Amiga's DFO drive. Then, I ran the



Figure 1: To hook up your ZIP drive to your Amiga, run the ConfigDisk program from the floppy, illustrated here.

18 GBs of hard drive space! (Warning—geek alert—warning!) Ok, maybe not. What you could get, though, may help you in your day-to-day Toaster world, such as an Amilink 4.1 upgrade (now available from RGB computer), or perhaps a new JAZ or ZIP drive.

Hook Up Your New Toys

A few issues ago, I discussed hooking a JAZ or ZIP drive to your Amiga as a backup and transfer unit to a PC or Mac. Since then, I've been happily flooded with e-mail and telephone calls from people wanting a more in-depth explanation of just how to go about hooking up the latest in removable media. Well, you asked for it, so you got it.

The principle behind using a JAZ, ZIP, Bernoulli or SyQuest on your Amiga, PC, and MAC is simple. Each computer system now reads DOS formatted disks, including floppies and removables (2.1 workbench or higher on Amiga). Given that, your new JAZ drive, for instance, can be formatted as a DOS partition and read on each computer. If you use ADPro on your Amiga, you can convert a Framestore or IFF image to just about any file format

ConfigDisk program from the floppy, as in Figure 1.

From there, the ConfigDisk will scan the SCSI bus to find any attached devices. Before it begins, it will prompt you to select the Configuration Type, either Amiga Partition, Entire Disk, or File as Disk. I selected Entire Disk since I want to format my entire ZIP disk as a DOS device. As in Figure 2, my Amiga 2500 found the IOmega ZIP 100 drive.

Notice towards the bottom of the CrossDos screen, there is a button that says "Configure the Entire Disk as CrossDos". I first selected the IOmega ZIP drive, then clicked the "Configure Entire Disk..." button. My ZIP drive is now a CrossDos device. Now, when I hook the ZIP to my Mac or PC, it will come up as a DOS device. Note that you must keep file names to the DOS 8.3 convention. One thing I did was name the ZIP disk E:, so that on the PC, the unit sees drive E:. This way, I can create a LightWave scene, for example, on one machine, saving everything to E:, then set LightWave's content directory to E: allowing a scene to load without any "Can't Find" messages.

Dr. Toaster continued on page 20



T A P E L E S S

EDITOR

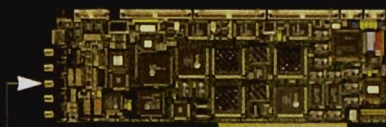
The next big leap forward in video production technology, a non-linear editing system for everyone. Not only is the Flyer the easiest-to-use non-linear editor, but it also has the same capabilities and quality you expect from a production suite with \$50,000 video tape decks.

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

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

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

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



NewTek
INCORPORATED

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.

FOR MORE INFORMATION CALL 1-800-847-6111
OUTSIDE THE U.S.A. CALL 1-913-228-8000

FAX 1-913-228-8099
WEB PAGE [HTTP://WWW.NEWTEK.COM](http://WWW.NEWTEK.COM)
INTERNET: ANONYMOUS FTP SITE [FTP.NEWTEK.COM](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, ToasterPoint, ToasterCG and Toaster are trademarks of NewTek, Inc. Design ErveAllan, Inc. © NewTek, Inc. 1995

TAMING THE WAVE

New Toys!

A look at WaveFilter's ImageMagic Shader

by David Hopkins



Hey there, gang and welcome back to yet another installment of "Taming The Wave." It's Christmas time and we all know what that means...new toys and gadgets for your favorite hobby—LightWave 3D—under your tree. And if you don't get those much desired toys, you could always return those boring shirts and gardening equipment and get what you're *really* after.

This month we're going to take a tour through a product that I've been beta testing for a while now and should be available by the time you read this—WaveFilter Shader, an element of Unlimited

Potential's mostly new plug-in package, WaveFilter ImageMagic. ImageMagic is composed of WaveFilter 2.0, WaveFilter Blur and the new WaveFilter Shader.

The Shader kit is pretty interesting in that it brings the power of the original WaveFilter Image Filter plug-ins and lets you use them on a surface-by-surface basis. Rather than trying to describe all of this excitement, let's work through an example scene using one of the new plug-ins. Hopefully you've already raced out and bought this product so you can follow along.

Don't Save the Wrapping Paper

We'll begin by loading the Toys.lws which came with LightWave and can be found in the Games branch of your Scenes directory. Render a frame so you know what we're starting with, or just look at Figure 1.

Use Load From Scene in the Objects Panel to get WFVanish1.lws, and don't load the lights when asked. This is actually a pre-configured package of controls for the Vanish shad-

er's features. The only things in WFVanish1.lws is a set of specially named null objects. In the current beta version I am using, the nulls are WFVanish1Center, WFVanish1InnerEdge, WFVanish1OuterEdge, and WFVanish1%. There is likely to be at least one more null added before release, but



Figure 1

we'll work with these.

In Layout, switch to the Top view. Select the WFVanish1Center and Parent it to the Tricycle object. This will serve as the focal point for a ball of invisibility. The space between the center of the balls and the InnerEdge defines what I call the Inner Zone. It is in this Inner Zone that the option (in this case visibility) will be fully applied. For our example, move the WFVanish1InnerEdge to .5 on the Z axis.

The area between the InnerEdge and the OuterEdge define the Neutral Zone. This zone will consist of a gradient from the Inner Zone to the Outer Zone, or you may prefer to think of it as a falloff area. Move the WFVanish1OuterEdge to 1 on the Z axis.

The area from the OuterEdge to infinity is, as you may have guessed, the Outer Zone. In that area, none of the options will be applied. Notice that as viewed from the Top view in Layout, these points define a "ground-zero" type series of rings. You can't actually see the rings, of course, but you should have no problem imagining them.

The next null in this example, WFVanish1%, controls the amount of invisibility to apply at the center of this sphere of influence. It defaults to 100% (completely invisible) and we'll leave it at that for now.

"The Shader kit is pretty interesting in that it brings the power of the original WaveFilter Image Filter plug-ins and lets you use them on a surface-by-surface basis. Rather than trying to describe all of this excitement, let's work through an example scene using one of the new plug-ins."

I'll explain the (currently) last null WfVanish1Style in a moment, but set it to 2 on the Z axis for the time being.

Once these nulls are placed we need to tell WfShader which surfaces will be affected by the ball we've defined. In the Surfaces Panel



Figure 2

locate the surface named "Chrome." Click the Shader Plug-ins button and choose WfVanish1.p, then close the window. Set the Transparency for the surface to .1%. The effect may not be reliable if *some* transparency is not in the surface to begin with due to LightWave's way of rendering. Do the same things to the Frame, Pedal and Tire surfaces.

Light Show

Let's get just a bit more light on the subject so we can see better. In the Lights Panel, set the Spotlight Cone Angle for the only light in the scene to 60 degrees. Go ahead, render a frame. My result is shown in Figure 2.

Notice that while most of the Tricycle is invisible, the shadow remains intact. This is because ShadowMap lights (which this scene uses) don't know a shader-affected transparent object *is* transparent. By taking advantage of this shortcoming we are able to create shadows of things that are completely invisible. If *this* doesn't give you a few great animation ideas, you should see a doctor. By the way, you may notice the base of the Pogostick is gone too. It contains the Chrome surface which is affected as well. If that were not named the same, it would still be there.

The only parts of the tricycle that we can still see are those outside our sphere of influence, in this case the handlebars. The seat is partially gone because it is sitting in the Neutral Zone. Try setting the

WfVanish1InnerEdge to .2 and take another render (Figure 3). See how the tricycle is fading away to nothing toward the center? You've made most of the tricycle sit in the Neutral Zone.

If you were to move the InnerEdge and OuterEdge beyond 1.5 or so on the Z axis, you would find that the tricycle disappears completely, leaving its shadow intact. This is because the tricycle is now completely within the Inner Zone, follow? Try one more rendering. Set the InnerEdge to .669 on Z and the OuterEdge to .687 on Z. Turn on the 1Trans.p for the Ball surface and make the Transparency .1. *Now* hit render or look at Figure 4. Notice that we lopped off the back half of the ball as well as hiding the tricycle.

An easy way to determine if something is within the proper area of influence is to select the WfVanish1Center null and rotate it.



Figure 3

The InnerEdge and OuterEdge will swing around to describe the range at any angle automatically since they are parented to the Center. If you did the last test, swing the center null around and you'll see the InnerEdge and OuterEdge clip right through the middle of the ball.

Imagine the Possibilities

So maybe you don't want the invisible surfaces to cast shadows. No problem. Don't use Shadow Mapped lights! Raytracing will make the shadows work as they normally would for transparent objects.

Now then, let's look at that last Null in the current group, WfVanish1Style. This is actually a multi-position switch telling the plug-in how to work. The default setting of 2 makes it operate as we've seen: Whatever is in the Inner Zone is invisible, the Outer Zone is solid. A setting of 3 does the reverse, so the Inner Zone is solid and the Outer

"Remember, all of these nulls are animatable over time.

Making a surface appear or disappear over time is as simple as moving the InnerEdge and OuterEdge in or out from Center, or just moving the Center."

Zone is invisible. A setting of 4 is the same as 2 only using the InnerEdge and OuterEdge to define a box instead of a ball. Setting 5, likewise, is the same as 3 using a box rather than a ball. A setting of 1 tells the plug-in to make all of the specified surfaces completely affected, regardless of *where* they are. The InnerEdge and OuterEdge have no impact on a scene with a Style of 1. A setting of 0 means don't affect *anything* in the scene, or off.

Remember, all of these nulls are animatable over time. Making a surface appear or disappear over time is as simple as moving the InnerEdge and OuterEdge in or out from Center, or just moving the Center. If



Figure 4

you want all of the specified surfaces to be 50% transparent ALL of the time, just set WfVanish1% to 50 on Z and set Style to 1. You can even animate the fading to 50% by animating the WfVanish1Style between 0 (off) and 1 (on). Some *incredible* effects can be achieved using just this one plug-in, but wait there's more!

This same process can be used for JAZ drives, Bernoulli drives, or any other removable media you might happen to have. But be forewarned: Different devices may be read differently (or not at all) on your machine. I've done this DOS format with a ZIP, JAZ, Bernoulli and SyQuest. The SyQuest gave me the most trouble, while the ZIP couldn't have been easier to set up.

Pseudo-Networking

Now, what about using one removable device on two machines? Well, your first option is to have two SCSI cables hooked up to your machines, and change the connection on the back of the removable when needed. However, you can sometimes run into weird SCSI errors if you suddenly disconnect a drive from a system, even if it is a removable. Since termination plays a role in this whole process, I had pretty good luck using a switch box. By purchasing a \$15 25 pin switch A/B switch box, the removable can be changed between systems with the turn of a knob. What I do is boot the PC with the ZIP drive connected to it. I do this because it's third on a chain with a

scanner, and internal 1.6 GB drive. Then, when it's needed on the Amiga, I flip the switch connecting the ZIP to

soul will run to the computer store and buy you a new JAZ or ZIP drive with tons of extra storage disks, wrap it up

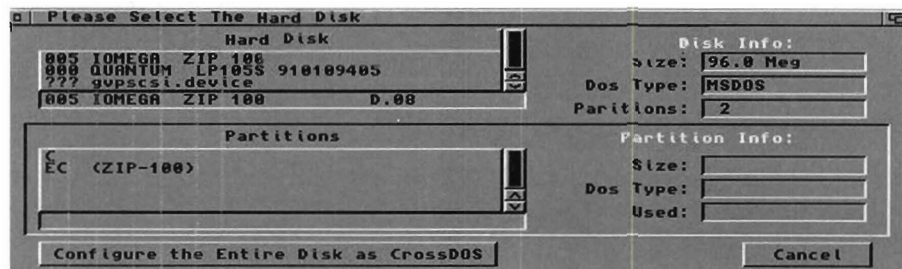


Figure 2: My Amiga 2500 found the IOMega ZIP 100 drive.

the Amiga, and reboot. Rebooting is not always the first thing you'd want to do, but it's a lot easier than connecting and disconnecting cables to the back of your computers all the time. It's also cheap and easy compared to an expensive network.

So there you have it. Having a ZIP or JAZ on your Amiga/Toaster system really can help your production, especially if you are dealing with clients who use PCs or Macs. For too long, Amiga users were sort of "left out" when it came to cool new products such as IOMega's ZIP drive. Well, not anymore.

And hopefully, some kind sweet

in a huge box with a big red and white bow, put candy canes all over the package, and give it to you on Christmas morning (or Christmas eve, or whatever your situation may be). Then, you can go ahead and play with your "Verti-Bird."

Happy Holidays everyone. Health and happiness to all of you.

VTU

Dan Ablan is now in official "count-down" mode to his wedding date this May. In the meantime, he sits every evening re-reading his book, The LightWave Power Guide, preparing for the next book.

Not only does WFSHader come with *four* Vanish plug-ins, each giving you a different set of values and locations, but gives you other types as well! The WFCOLOR.p, WFNeg.p, WFB&W.p, WFSpec.p, WFTrans.P and more give you the

"If you want unparalleled control over the textures in your scene, WaveFilter Shader is the ticket."

SAME level of control over those features! This sort of functionality makes the entire Shader package well worth the price. Take a look

at the result of the Ghost.p on the Toys scene in Figure 5 for an unusual example.

As I said, all of this is written based on a beta version and I expect even bigger things to materialize before the final release. If you want unparalleled control over the textures in your scene, WaveFilter Shader is the ticket.

Until next month, keep practicing! Even the LightWave Masters know that the surface hasn't even been scratched as far as LightWave's capabilities go, and you're just the person to create the next cutting-edge imagery. In the meantime, be sure to visit me online at <http://www.primenet.com/~lthouse> for back issues of Taming The Wave, or just drop me a note and say hi at lthouse@primenet.com. Merry Christmas!

VTU

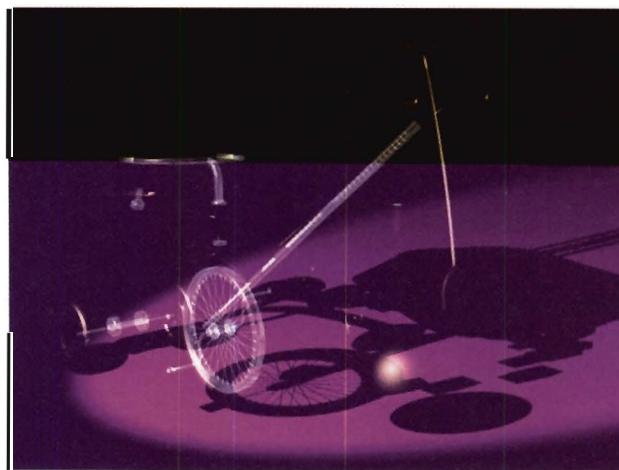


Figure 5

David Hopkins is founder of Mach Universe, a Southern California-based graphics house. He is also the President of Lighthouse Imaging, a contract rendering service in Santa Monica, California.

EDITORIAL EVALUATION

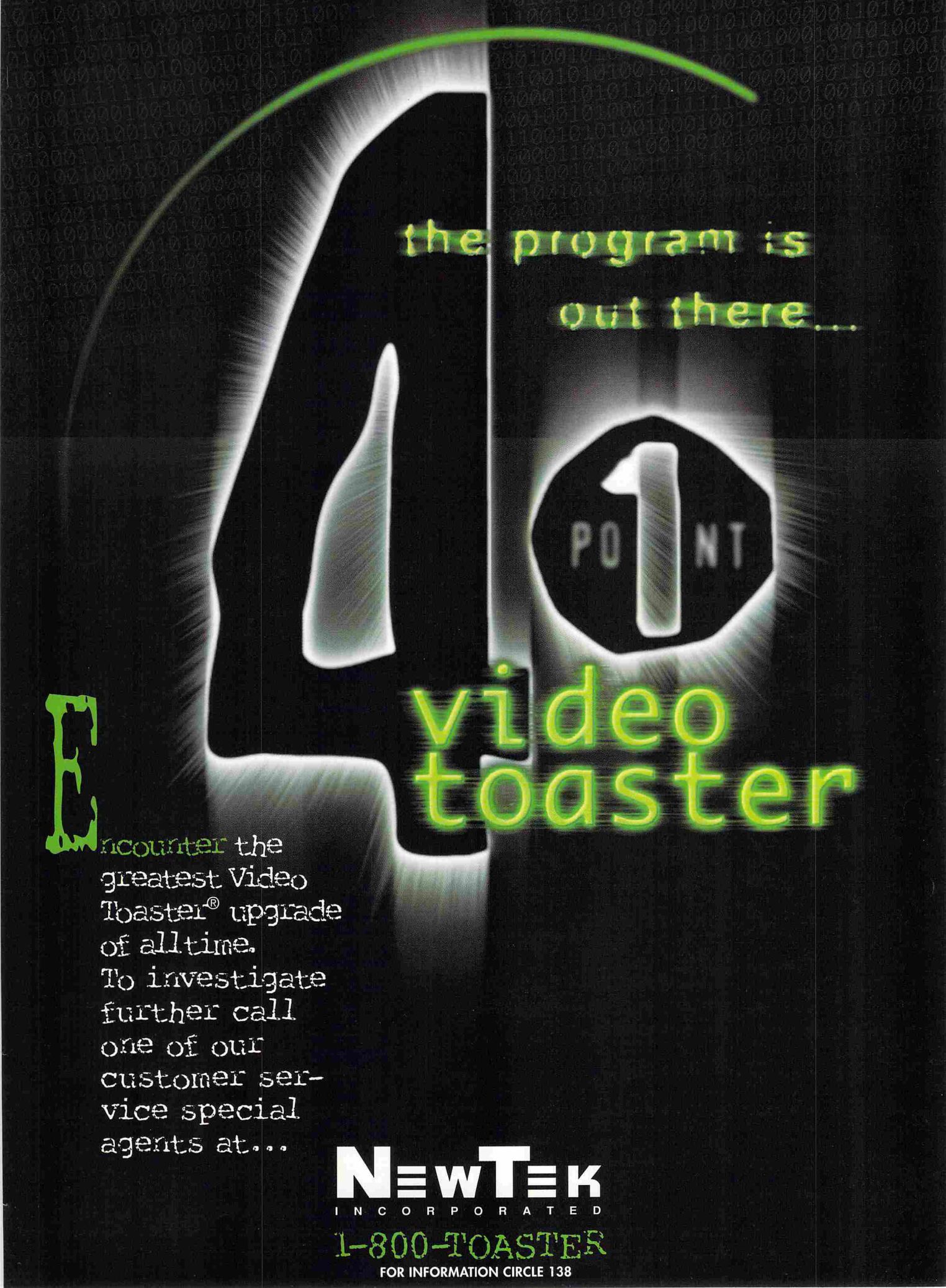
Circle number on Reader Service Card

I found this article:

Very Useful
Circle 030

Useful
Circle 031

Not Useful
Circle 032



the program is
out there...

video toaster

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

NEwTEK
INCORPORATED

1-800-TOASTER

FOR INFORMATION CIRCLE 138

CYBERSPACE

Video in Cyberspace

The Future Looks Bright for Emerging Technologies

by Geoffrey Williams



I've written in this column about the different ways you can display video on the internet using various plug-ins to Netscape Navigator. The latest version of Netscape (3.0) allows you to directly display embedded AVI videos. None of the current video compression solutions offer the transmission speed or quality that we would like to see, however.

There are some interesting technologies being developed, and this month we'll look towards the future to see how things may shape up. The future of video on the Net looks very interesting. For a general overview of current technologies, check out bcn.boulder.co.us:80/pdx-flood/teleport/%7Eesamc/cable7.html. It covers the basics of video encoding standards, and provides an overview of many different current compression schemes. If you want more extensive information on video on the Internet, with links to all of the plug-ins, this is the place to visit.

Types of Internet Video

There are four basic types of video on the Internet. The most common are simply compressed video in formats such as AVI, MPEG, QuickTime, etc. These files are first downloaded and then displayed by a player. The second type of video application can be comprised of proprietary formats or one of the standard video formats just men-

ing a precreated file, a video stream is created and sent across the Internet, where the receiver views it in real time. Video conferencing generally provides the poorest quality, but it makes it possible for people to see each other at



each end of the line. This is also a real time format.

Let's look at a few interesting utilities that work with browsers to provide video delivery. MPEG still leads in the trade off between speed, quality and universal acceptance, although it works best with hardware assistance. XING Technologies Streamworks is a helper application for Netscape and Internet Explorer that plays both live and on-demand MPEG audio and video, with no wait for a download. It starts to play immediately. It offers scalable data rates and scalable playback providing the fastest speed your system is capable of. It plays both streaming audio as well as audio and video files. The player is available for free from their site at www.xingtech.com or through CNET. Even a 28.8 modem is not quite fast enough to give you impressive results, but the video clips are watchable, even with annoying dropouts in the audio.

Video Conferencing

Video conferencing is growing in importance, and there are a number of very low cost options. The standard low-cost way to go is Cornell University's CuSeeMe. A great source to get it can be found at home1.get.net/jkl/cu.htm. Not only can you download a copy from this site, there is also extensive information about CuSeeMe and very detailed illustrated installation instructions.

CuSeeMe requires a video camera and a video capture card, or you can purchase an inexpensive QuickCam for under \$100 that will do the job. The CuSeeMe window is black and white and small, but does do the job. The frame rate depends on your connection and modem speed. You can watch and be watched, or simply lurk—viewing sites without sending your own image.

Another option is uses a reflector site where as many as eight CuSeeMe windows can be displayed at a time. You converse with the other images through a chat window, typing what you want to send. There is also a commercial version called Enhanced CU-SeeMe which offers a color display and includes audio capabilities.



Figure 1: Iterated Systems' (www.iterated.com) great still frame.

tioned, but the server end sends the file out in a continuous stream and you need a special player to display it. This eliminates the need to wait a long time for a video to download, although typically you do take performance hits such as skipped frames or audio glitches. Live streaming video is used to cover live events, and instead of send-

Compression

The common ground between all video formats is that they use some form of compression. One compression format that may never apply to video, but is of exceptional general interest, is Kodak's recently announced FlashPix. It is based on the same technology as Live Picture, a Mac program that allows you to edit and display images that are very large—many times larger than available memory—and do edits on them in real time. You can also edit them non-destructively, as everything is represented algorithmically. It will be incorporated into browsers, allowing you to quickly see lo-res representations of very hi-res images. For more information, access the Kodak site at www.kodak.com.

Another exciting technology is fractal compression. The main developer is Iterated Systems (www.iterated.com). They do some amazing compression on still images, which can be recognized by the FIF extension. Their free Fractal Viewer plug-in offers fractal zooming and fractal focusing as the images display. You get more detail when you zoom in, rather than the blocky pixelated appearance of other image formats.

Remember, it's the same fundamental concept employed in things such as the Mandelbrot Set, which allows you also to zoom in to get even greater detail. Their fractal format offers higher quality at lower file sizes than traditional file formats, and their plug-in lets you do rotating, stretching, flipping, scaling and color palette control when viewing them on the Web. A FIF file displays progressively in an entirely different way from other progressive files. It starts as a fairly detailed tiny image that progressively grows larger as more of the image loads.

One of the very interesting demos on the Web site involves an image of a man wearing a very small badge. You can zoom in on it and actually read the tag (Figure 1). You'll want to visit their site just to play with the amazing demos. You can also buy a copy of Fractal Imager for around \$40, which allows you to create your own fractal compressed images.

Iterated's latest introduction is Clear Video, which can dramatically reduce the size of Quicktime and Video for Windows files so that they download and display faster. The ClearFusion plug-in works with Netscape, and it will also work with ActiveMovie. It streams the files so that you can view them immediately.

Wavelet

One of the newest compression technologies is known as wavelet compression. One of the pioneering companies is Aware Inc., and you can visit their site at www.aware.com. Unfortunately, they do not directly support either video or the Internet.

The basic concept behind wavelet compression is that it reduces the information in a digital signal to averages and differences of neighboring pixels. The information in areas of similar colors are collapsed into themselves, allowing the average and difference components to contain information about an area four times its size. Add to this the ability to throw out redundant information, and you can get very high compression ratios with very little image quality loss.

One of the leading companies in the area of wavelet compression is Summus, Ltd., and you can find many interesting demos, as well as their free Netscape plug-in, at www.summus.com. They do support Internet delivery, and are also working on streaming video solutions. Corel will be including their compression technology in future products.

Their wavelet compression offers some interesting options with still images over the Internet. One of them is that you can create focus boxes that highlight areas of fine detail to be preserved. These sections retain their sharpness after compression. One of the examples on the Summus site is of the antennae of a butterfly that look a little fuzzy when the image is compressed at 60:1. After creating a box around the antenna and compressing again, they now look very sharp and clear, and not only that, the image is 176 bytes smaller. Amazing.

Images can be displayed progressively, just like with JPG and GIF files, so that you can see what the image looks like as it loads. Most load so fast, though, that it almost does not matter, except that it looks neat as it appears. You can even adjust how many intermediate images will appear. I think the image has greater clarity early on in the progressive display than either similar JPG or GIF files.

Two important characteristics of a wavelet image when it is magnified is that there are no pixel replication blocks and no increase in compressed file size. It is therefore possible to display these images across the internet at two to four times their original size without increasing transmission time. Even at four times magnification, the images look remarkably good.

Wavelet video compression does have

some weaknesses. Depending upon the algorithm used, fast moving and very sharp edges can get a halo effect similar to video "ringing." Even so, it offers significant performance and may well play a very important role in the future.

Wavelet compression is being used by several companies for video compression. The VDOLive Netscape Plug-in (www.vdolive.com) that I wrote about in a recent column uses wavelet and proprietary compression schemes.

Indeo Video Interactive

The most significant introduction of wavelet compression comes from Intel, with their Indeo Video Interactive. One of the compression features it offers is scalability, which means that you can choose to have a frame displayed with less detail (i.e. blockier) rather than having a frame drop when their are bottlenecks. Some people find this blockiness more distracting than simply skipping the frame. It also offers bidirectional prediction, similar to MPEG-1, but the downside is that it tends to increase compression time by about 30 percent and there are reports that it can lead to lost synchronization and skipped frames at the beginning of a file. The most important feature is the ability to compress at a lower quality, which for low motion videos looks nearly as good as the high quality but increases the playback rate.

With Intel aggressively supporting Wavelet compression, it is certain to play an important role. It is not yet an ISO standard, so it may be awhile before it catches on, but it is clearly a technology to watch. To get a copy of the player, visit www.intel.com.

A good site for tips and advice on Indeo Video Interactive can be found at www.doceo.com, which is an excellent resource for digital video in general and well worth a visit. It also includes links to many digital videos sites.

As usual, if you want the utilities covered this month and don't want to spend the time downloading them, I have put them all on three very full PC disks (since they only run on a PC) along with some bonus goodies which you can have by sending \$8 to: Geoffrey Williams, December Disk Offer, P. O. Box 10095, Glendale, CA 91209. To take advantage of these programs you need either Netscape or Internet Explorer. The best way to contact me is through my e-mail address at cbp@cris.com.

SLICES

Wear Your Technology

Make T-Shirts for Holiday Gift Giving

by James Hebert



It's that time of year when our thoughts turn to snow-covered boughs, warm and toasty fires, and time spent with loved ones. That is unless you live in Topeka, where your thoughts turn to snow-covered roads, cold and icy sidewalks, and time spent with loved ones beside your hospital bed. Call me an old sentimentalist.

Actually, since it's the holiday period, it struck me as a good idea to pass on a cool idea that's a lot of fun to put together. An added plus, this one also garners rave reviews. This is not specifically a Toaster or Flyer

related column, however, having these powerful tools of the video graphics trade, you can create some terrific gifts for yourself, your family, your business, your friends, and possibly your clients. You'll see why in a moment.

The Secret is the Printer

You can create your own T-shirts with a your computer and an inexpensive color printer. Seriously. And they turn out wonderfully, thanks to today's technology. From a Mac, PC, and yes, even an Amiga, you can turn out some pretty cool T-shirts. Think about the possibilities here before you turn the page: Framergabs, company logos, special "show" T-shirts for your employees, special "fund drive" T-shirts

for your business, LightWave 3D artwork, CG pages, etc. If you find the right material in a jacket, you can make team jackets, designer scarves, mouse pads, and more.

In fact, here's something you can do that's cool—something that most T-shirt printers can't do—create and apply wraparound graphics that go around the entire T-shirt, from front to back. I've seen very few T-shirts that do this, and the folks who had them commented on how expensive they were to produce. But hey, me and my ironing board know no bounds.

In fact, if you've ever been to SIGGRAPH, the computer graphics show (for television, film, print, science, you name it), you'll know that, "the T-shirt makes the man (or woman)." It has become a T-shirt show. On the

Internet it's popular to rate the best T-shirts of the show. This year, several attendees mentioned that the QuVIS "wireframe frog" T-shirt was one of the sought-after ones. In fact, we had giveaways at the show where the winner had their choice of a T-shirt or a baseball cap. Nine times out of ten the T-shirt won out over the cap. We had many caps left over. (Anyone want a hat?)

The Same Rules Apply

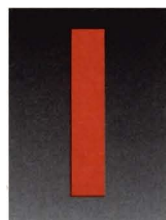
Interestingly, several of the graphics rules that apply to the creation of graphics for TV apply with T-shirts. Fine detail is out. Small type is out. Keep the color of the T-shirt you plan to use in mind, as well as large areas of a color that doesn't work with the T-shirt. Otherwise, let your creative mind fly.

The process is simple. Create a design on your computer. If it includes an image of a person, or text, you should make sure to flip it (thus creating a mirror-image of the original). The reason is that a reverse image must be printed onto the transfer paper in order for it to appear correctly when applied to the T-shirt. Just remember to flip your artwork before printing it, and you'll be okay.

Which printers work for this process? Surprise! Most color inkjets manufactured within the last 2 years are likely to work. I use a Hewlett-Packard DeskJet 855C, HP's SOHO (small office/home office) printer. There are models both above it and below it in terms of price and features. I'll give you some tips on that in a moment. And you can produce T-shirts with inkjet printers from Canon and Epson as well. There are likely others, but these three are the major inkjet printer manufacturers you'll find most anywhere.

If you decide to go shopping and look for a printer, I pass on the following advice: Get a model that uses two (one black, and one CMY) or four (one black, one C, one M, one Y) ink cartridges. This means a price range of probably \$275.00 or higher. The reason is simple once you know how print. Low-cost color printers use a single cartridge containing Cyan, Magenta, and Yellow to create all possible shades of color in print. (As a computer or video artist, you use Red, Green, and Blue for this purpose.) However, to create black, these printers must lay down a mix of CMY that actually looks more like dark gray or charcoal. It just ain't black.

Awesome color comes at the price of speed. You're going to have to face this trade-off. The best color printers are usually the slowest. The Epson Stylus models have by far the most beautiful graphics output, no matter what you print on. They are also really slow, the slowest in fact, even when hooked up to a fast computer. "Second" in quality, to my eye, are the Canon and HP



"Interestingly, several of the graphics rules that apply to the creation of graphics for TV apply to T-shirts. Fine detail is out. Small type is out. Keep the color of the T-shirt you plan to use in mind, as well as large areas of a color that doesn't work with the T-shirt."

models. The HP's are faster, and the ones with additional RAM are more so.

Buy from a reputable dealer who will offer you an unconditional return policy if the printer does not suit your needs or produces results you just don't like. Some of the larger electronics chains give you 14 days to try out a piece of equipment. Use this time wisely. And be responsible with the packaging so that your dealer thinks highly of you, even if you return it. Open the box carefully and keep all packing materials organized and folded neatly. (I once had to exchange a printer four times until I got one that worked right. You shouldn't face this with today's manufacturing.)

Finding the Right Printer

Here's my take on buying a color printer. Please note that this is where "Slices" becomes seriously *opinionated*. You'll need to assess your work habits in determining whether a given printer works for you. Being set in your ways, as I am, really helps.

As a writer, I use black a lot. Most of my output is "just plain text." In addition, I am asked to layout graphics for a number of product manuals. So it made further sense to go with a printer that had "true black" output, so that I would not be spending as much money on color ink cartridges that were used for black printing. Furthermore, I needed a "truly black" black. I like the crispness of a fine black edge, and the "depth" that a solid black provides. Plus, the latest round of inkjets can produce text output that rivals that of a laserjet (unless you get to within an inch of the page).

Second, the speed of the printer came into play for me. The Hewlett Packard DeskJets, from the model I purchased on higher, have additional RAM for faster processing. The difference is tangible. If you have the time, you'll get the same quality from a model like the 682C, although it will take longer (depending on the graphics, from 1.5 to 3 times longer). If time matters to you, consider a printer with memory (or at least one that can take additional memory).

Third, why did I go with color and not just a laserjet? With a 3-year-old here and another one on the way, color sounded like fun. I imagined all kinds of cool uses for a color printer, from birthday invitations to Valentine's day cards to letters to the family with color pictures of the kids. I sold myself pretty well on this concept. (There's an addi-

tional twist here you'll read about later.)

Concerning warranties, this is a tricky area. My experience is that, under normal to heavy usage, if a device is going to quit on you, it will do so in the first week's usage. Plug it in, test it out, use it like crazy, and most importantly *leave it plugged in and turned on continuously for the first week*. This rule applies to everything electronic that you buy: TVs, decks, computers, printers, scanners, cameras, whatever. Most printers come with a one-year warranty. Interestingly, HP warrants their lowest-cost printers for three years while their medium-cost printers receive one-year warranties. Here again, a new argument comes into play: If you can afford

to take time printing, *and* you'd like a longer warranty because the printer won't be used 24-hours-a-day, you might prefer to go with the 682C. It's a thought.

Most consumer groups claim that warranties you pay an additional charge for are not worth it, particularly with electronics in this price range. I tend to agree. Especially if you, like me, tend to tool around with your equipment and feel confident in repairing and servicing minor problems on your own. If you genuinely want nothing to do with the service and repair of a unit, and you'll feel more comfortable with an extended coverage warranty, go for it. The peace of mind is probably worth it for you.

Most of these printers include software for the Mac or the PC. Check with your dealer when you look into one. As for the Amiga, look into a program called Studio Printer, which contains drivers for the HP Deskjets and Canon Bubblejets.

You might also check out the Hewlett Packard and Canon forums if you have access to CompuServe. There are often questions about making T-shirts, techniques, and ideas people have posted, as well as some "archive" files of commonly asked questions. And since this market is becoming popular, Hanes now sells a software package called Hanes T-Shirt Maker that includes a selection of fonts, clip art, and effects for creating your own designs. The soft-

ware will also handle the mirror-image printout for you. Another company, MICRO Blvd., offers Instant T-Shirt and Poster Designer. Both are available through the Tiger Direct mail order service, although you may find them where you buy your printer.

By the way, I made a discovery during the process of printer evaluation. Because of it, I recommend that you don't buy an inkjet if you plan on using a PostScript product-like QuarkXPress. When sending output to a non-PS printer, Quark must generate a superbitmap of each page, on the hard disk of system, before sending it to print. My single-page test page required nearly 15MB on disk

just to print out! It's just not worth the time or the hassles. There are "PostScript emulators" or convert products that handle PS in software somehow. I have not used them and cannot comment on their effectiveness. (Note: this has no effect on graphics that were made with PS fonts, like ToasterCG pages. It only merits consideration if your program sends PS data to the printer, and not bitmapped graphics.)

In my case, this necessitated the purchase of a laserjet with PostScript capabilities. I had to. I had a manual come up where I needed to print out roughly 200 pages a night for proofing each day. You just can't make that happen as easily on the smaller printers. Live and learn. So, I've got great black-and-white output that looks gorgeous and prints very fast. Plus I can make cool T-shirts and send color letters to the family. Ah, well, it's the holidays. What more could anyone ask for?

I'll put you down for a T-shirt. Large, right?

VTU

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

mac catches the

BY

THOMAS

FEDORYAK



A Preview of LightWave 3D for Macintosh

The great news is finally out—LightWave 3D for Power Macintosh is just around the corner and should be available upon the printing of this article. During the last few years, rumors and rumblings have been quietly growing as to whether or not NewTek, Inc. would release a Macintosh version of LightWave. Many of us have long believed that Macintosh would be an ideal platform for LightWave—after all, it is home to many of today's leading media design tools and boasts the widest range of applications geared towards media production. Its rich, flexible environment and integrated interface have been copied,

cloned, duplicated and imitated, but, as many passionate advocates will tell you, there is only one true Mac.

Despite the fact that 3D software has existed for some time on the Macintosh, the bulk of professional 3D production for feature films and broadcast video has been carried out on non-Mac platforms. This is partly due to the lack of a truly advanced, full-featured 3D software package for the Mac. Those applications that were previously available have often lacked basic, fundamental features such as raytracing, inverse kinematics or a modeler.



The digital animation and visual effects industry was traditionally dominated by expensive workstations running over-priced, high-end software packages. It was LightWave that first broke this trend and allowed low-cost Amigas to compete with these systems, delivering ground-breaking effects for shows such as *SeaQuest* and *Babylon 5*. When LightWave 4.0 went multi-platform and versions were announced for SGI, PC and DEC Alpha, Macintosh users definitely felt left out. Now, with the continuing roll out of version 5.0, Mac users won't have to hold their breath for much longer.

The Long, Hard Wait

Before LightWave could be ported to Macintosh, a number of things had to happen. First, Apple had to significantly increase the Mac's raw horsepower. Enter the

"With LightWave, the price to performance ratio couldn't be more competitive. In fact, a number of Mac-based competitors have already lowered their prices in anticipation of the release of LightWave."

PowerPC family of RISC processors from Motorola, which are far superior in speed and performance compared to the CISC chips that Apple (and pretty much everyone else) was using previously. By changing its primary processor technology to RISC, Apple put Macintosh onto a level comparable to SGI and Alpha.

Second, Apple had to add direct support for 3D graphics into the core Macintosh operating system. In mid-1995, Apple accomplished this by introducing QuickDraw 3D, a system level application-independent graphics layer that addresses many of the problems associated with programming and implementing 3D. With QuickDraw 3D, any Macintosh program (even a word processing or mail program) can take advantage of a very powerful library of graphics resources—the kind that were once reserved for the elite 3D workstation market. Due to the processor-intensive nature of QuickDraw 3D, none of this would have been possible before the move to PowerPC chips.

LightWave at the End of the Tunnel

Now, with these two major advancements in place, the Mac is finally ready for serious, high-performance 3D and the long-overdue LightWave port. Macintosh is perhaps the last unconquered frontier for LightWave, which is rapidly gaining favor on all of the platforms that it already supports. When LightWave finally makes its much-awaited debut on Macintosh, users will be able to experience first hand what has made it the ideal solution for professional 3D designers, artists and animators all over the world. With an estimated base of 16 million Power Macintosh computers by 1997, there is tremendous potential for LightWave to prove that it is the affordable answer to high-powered 3D modeling, texturing, animating and ren-

"The first thing that Macintosh users will notice is that LightWave does not follow the usual Mac interface conventions. This is due to an effort on NewTek's part to remain consistent across all of the platforms that LightWave supports."

**F
O
R**

dering on the Mac.

LightWave won't be without competition, however, as there will be a number of other packages contending for the 3D throne. Macintosh users should be aware that the extensive feature set and photorealistic rendering capabilities which made LightWave famous do not come at an inflated price. With LightWave, the price to perfor-

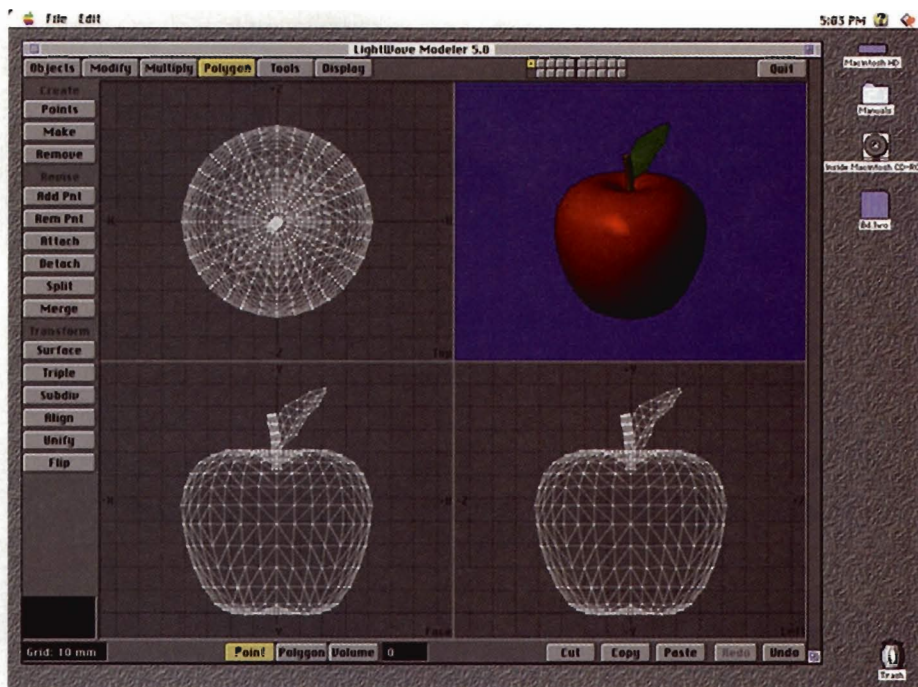
mance ratio couldn't be more competitive. In fact, a number of Mac-based competitors have already lowered their prices in anticipation of the release of LightWave. That's because they realize what they are up against.

Running with the Wave

The first thing that Macintosh users will notice is that LightWave does not follow the usual Mac interface conventions. This is due to an effort on NewTek's part to remain consistent across all of the platforms that LightWave supports. Of course, anyone who is already familiar with the software will be able to just dive right in—same interface, same features, same quality.

For first-time users, LightWave's clearly organized menu system won't take long to get used to. LightWave runs the gamut from entry-level production to high-end character animation, delivering an outstanding suite of tools to both experienced and novice animators. It is easy enough to use for the beginner, yet packs such an immense amount of power and flexibility that Hollywood feature film effects studios are also investing in the software.

One detail that will be different in the Macintosh version is that QuickDraw 3D will be handling the real-time interactive shading, a duty which is handled by OpenGL on other platforms. This difference will have little effect on animators, since the feature works transparently with little or no input from the user.



Our first look at LightWave's new Mac interface is on NewTek's Web site.

***"A year from now,
Macintosh anima-
tors will probably
wonder how they
ever got by
during the
pre-LightWave
dark ages."***

Mac the Knife

Now that Macintosh has some awesome processing horsepower as well as built-in 3D functionality, expect it to cut into the once sacred 3D workstation market. With the right software, the Mac will undoubtedly become invaluable in the realm of digital animation and visual effects.

A year from now, Macintosh animators will probably wonder how they ever got by during the pre-LightWave dark ages. LightWave will be as great for the Macintosh as the Macintosh will be for LightWave. Together, they will provide an extremely powerful combination to anyone who is serious about their 3D.

Thomas Fedoryak is President of Digital Light Incorporated, a premium content producer and full-service visual effects company. He can be reached at thomas@dig-italight.com.

VTU

EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Very Useful
Circle 039

Useful
Circle 040

Not Useful
Circle 041

Add amazing 3-D transitions and effects to your Flyer productions!



Fly FX is a collection of 3D rendered effects that seamlessly integrates with your Flyer system. It's easy, drag a FLY FX crouton into your projects, in place of your regular effects, and FLY FX will handle the rest automatically.

In fact it is so easy to use, if you know how to edit on your Flyer, you know how to use FLY FX.



100% Flyer Integration

Hollywood FX Converter

Over 100 available effects

Amiga to PC scene converter

Learn whole program in minutes

Available Now Call 1-800-525-2203

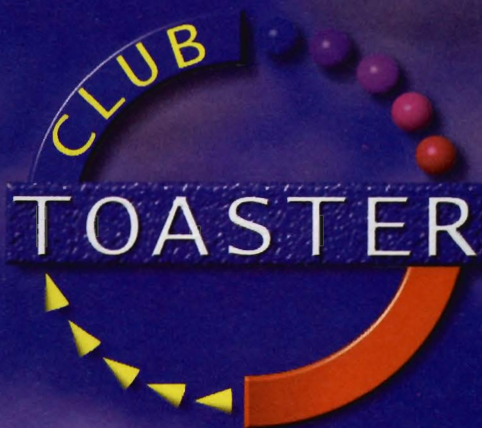
Fly FX **\$129**

Vol. 2 & 3 **\$99** each

Try before you buy.

NO RISK. NO HASSLE. 30-DAY FREE TRIAL.

Dimension Technologies is so confident that you'll find our products a useful addition to your software library we've decided to let you take them on a test drive. These are the full versions with manuals, disks, and video tape tutorials. You can try one or all of these great programs with no risk or obligation. If you find you're not completely satisfied, simply send it back.



Club Toaster is a monthly CD that is packed with backdrops, textures, wipes, moving backdrops, color fonts, FLY FX effects, full length music, sound fx, and more! Best of all is the price only \$9.95 per issue.

Composite STUDIO PROFESSIONAL

Composite Studio 2.0 is the easiest way to size and position multiple frames into a single image. With Composite Studio it's all automatic. With the click of a button you can bevel, emboss, frame, or even add a drop shadow to any resized image. The included video will walk you through every feature.

Wipe STUDIO

Wipe Studio is the only program that actually lets you create your very own COLOR wipes. Now you can create any wipe you can imagine in full 256 colors. And for the first time we're including the Wipe Studio Power Module and Video Tutorial at no additional charge.

FOR INFORMATION CIRCLE 108



ORDER TODAY
800.525.2203

DIMENSION
technologies

Offer Ends February 15, 1997. S&H charges may apply. Fly FX not included in offer.

1156 W. 8th St. Erie PA 16502 814-838-2184

M A K I N G

time_count

BY ROSEMARY PICADO

The Toaster Users of Oregon State Penitentiary

Audio/Video Technicians Bobby BeauSoleil and Michael Carrigan have some time on their hands. As inmates of the Oregon State Penitentiary, a maximum security facility, they're making time count by administering and utilizing the prison's Audio/Video Project Studio, with NewTek's Video Toaster and LightWave 3D comprising the center of their video suite. Both BeauSoleil and Carrigan have a personal commitment to use their talents and technology to provide video services for several programs that give back to the community and assist at-risk youth. Utilizing the wisdom of the inmate's life experiences, these programs such as the Los Hermanos Youth Crime Prevention Program, *On Solid Ground*, and the Lifer's Speaking Panel, hope to help at-risk teens make better choices and keep them off of the

same road that lead them to prison. The Toaster not only helps the A/V Project Studio staff create videos for these and other community outreach programs, but also provides technical education and a therapeutic creative outlet for inmates.

Still, BeauSoleil and Carrigan must work with limited facilities. Most of their equipment has been donated by an impressive list of companies in support of their work. "Companies are comprised of individuals," BeauSoleil explained, "and it has been my experience that a good many people in the industry genuinely care about the kind of world we live in."

On Solid Ground

Of the programs that Carrigan and BeauSoleil have done video production and 3D animation work for, one



of the most promising is the *On Solid Ground* video series. *On Solid Ground* is a thinking skills development program for at-risk adolescents in juvenile facilities and schools produced by the Gordon Graham Company, in Bellevue WA. The videos are a 13-part series that accompany a lecture-style video lesson plan and workbook. Each video



The Toaster system in the A/V Project studio not only allows inmates to participate in community outreach programs, but also provides computer training as well as a creative outlet.

segment times in at around 15 minutes.

Carrigan produced an animation sequence in LightWave 3D to open the series and illustrate the 13 sessions of the program. He used a pyramid motif with each block symbolizing one step of the program. He then flew in the title for each session on its particular building block. BeauSoleil produced the music for the video, a rap song entitled "On Solid Ground" to be used as the theme for the series. Video was created on the Toaster system and the music was dubbed in on a Hi8 VCR.

"Our biggest problem is that we don't have a PAR or a Flyer," said BeauSoleil. For the *On Solid Ground* project, they had 16 animations (LightWave 3D ANIM sequences) to splice together to create a full minute of motion. They ended up with some slightly hard breaks and dark spots between splices. "For the way we work, combining video tape animations and original music, a system like the Flyer would be ideal," he said.

Project Studio Specs

The AV Project Studio consists of an Amiga 4000 with Toaster card and runs 3.1 software. NewTek recently donated LightWave 4.0 to run on a Windows NT station from by DeskStation Technologies. The project studio's video production crew shoots footage with a Quasar VHS camcorder and a Canon ES 2000 Hi8 camcorder. They also have Ethernet software donated by InterWorks, and an AVEC Flight Recorder. They already have a 1 GB system hard drive and a 1 GB audio drive with CD-ROM ready for the Flyer. As yet, they also need two AV hard drives. "We also have a kitchen sync," Carrigan said.

"To me, this is less about specifics and individuals than it is about using a

wonderful technology in an artistic way to reach out and communicate generally to all," Carrigan insisted.

The A/V Project Studio staff hope to create the best level of production with whatever equipment they have. "It is our desire that both the audio and video will have a reasonably high level of production values," said BeauSoleil. "As part of my job, I spend a lot of time on the phone talking to people in the industry, manufacturers and distributors of video and audio equipment, desktop multimedia equipment, and so on, in an effort to obtain the gear necessary to implement a modest multimedia project studio."

"To minimize the financial impact on any one company, I generally request only one or two items from each company. And I make it clear that last year's model or cosmetically blemished B-stock inventory, or even non-working gear that we can repair, is acceptable to us. In some cases, the companies who have chosen to sponsor our project have exceeded our requests," he insisted.

One recent donor to the project is Graphic Detail Inc. When BeauSoleil called, Michael Meshew was happy to donate 3D object CD-ROMs for use with LightWave, including the titles, *LIGHT-ROM Gold*, *Multimedia Backdrops* and *3000 JPEG Textures*.

"It's very touching to listen to him

describe the program and their goals," said Meshew. "Certainly he's in a difficult position, and it's a program that's very worthwhile. It's the least you can do, it's more of a duty."

Gary Fenton of Deskstation Technologies was able to donate a Windows NT workstation last year, and also helped to facilitate collection of

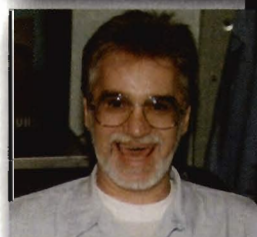
other materials, with mixed results. "The program sounds really wonderful. It's a very broad-based program to communicate with troubled youth and it transcends different technologies; audio, video and graphics. It's a wonderful idea for them to communicate with those kids who may be more willing to listen to them than other authority figures," Fenton said.

Los Hermanos

Carrigan and BeauSoleil have also been involved in producing videos for the Los Hermanos Youth Crime Prevention Program, an outreach program of the Chicano Club of Oregon State Penitentiary, using the Toaster to produce a video series similar to the *On Solid Ground* series. For this program, there are nine sessions, using 15 to 20 minutes of video for each session.

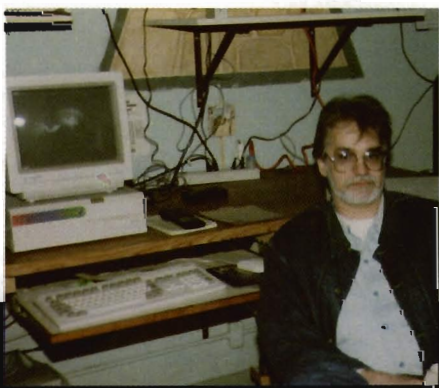
BeauSoleil coordinates the production of this video series and also sits on the Board of Directors for the Los Hermanos program. Others who serve on the Board include other prisoners, teachers, juvenile probation officers, members of Mothers Against Gangs and a victim's advocate who works for the state of Oregon.

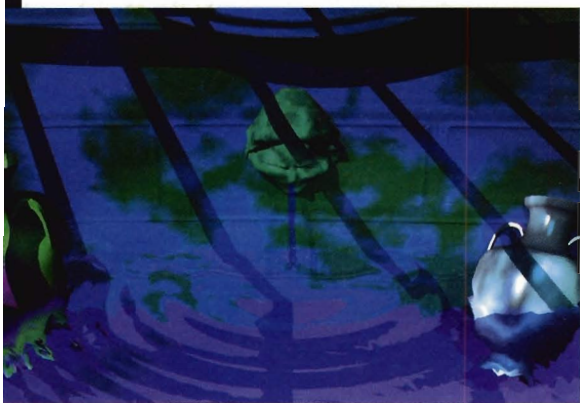
Some of their work for the Los Hermanos Youth Crime Prevention



Above: A/V Project Studio Techs BeauSoleil and Carrigan.

Below Left: Carrigan in the studio with his Toaster system.





More LightWave art by Carrigan.

Program is already being used in schools in the Molalla, Ore. school district. For this project, the Toaster was used for titling and graphics in this first rough draft, but a fine-tuned production version of the program is in progress. The program also comes with a workbook for students.

"We have discovered that we are competing with mainstream media out there," said BeauSoleil, "MTV, video games, sitcoms and so on. The boredom threshold of these kids is very low. And we have to really be on our toes to keep their attention from wandering or switching off. We want our video productions to be snappy, upbeat, attention-grabbing, and to be on a par, in terms of production values, with the types of programs that these kids normally see."

The Lifer's Speaking Panel

In another application, the AV project production crew is creating videos of a long-running program in the prison, the Lifer's Speaking Panel, and outreach of the Lifer's Club. Normally, at-risk youth would come to the prison to hear the inmates tell of their experiences, but the Lifer's Club hopes to reach a larger audience with this video project.

"Even though it may benefit the child involved to a great extent, not all the parents are willing to send their kids to a prison. We want to use the audio-video medium as an alternative way that we can reach out and give kids the benefit of our insights and our experiences," BeauSoleil said.

Currently in production are two videos aimed at prospective sponsors for the youth programs. "In these videos

sponsors can see the inside of the prison, how we work with the youth and so on. In each video there is a forum panel where four or five of the men who are involved in the program get together and speak about the program and their personal motivation for being involved in it," he explained.

Violence Prevention Program

BeauSoleil also hopes to use the Toaster and especially LightWave for Violence Prevention, a program at Oregon State Penn focusing on adolescents who have already been in trouble. The youth are sentenced to the program as part of their probation.

BeauSoleil said, "One of the techniques we use is to video tape the youth and prisoners in skits

can escalate into violence. This helps one learn how to avoid violent situations, and find alternatives to confrontation."

BeauSoleil would especially like to create LightWave animations to enact these situations as well, illustrating them without racial overtones. "If we can use green people and blue people, we can sidestep racial issues," he said.

Recreational Therapist and AV Project Studio staff advisor Dudley Janeway is proud of the work Carrigan and BeauSoleil are doing with their limited facilities. "They're doing some good work and will do anything to get the word out about the video production program. This is certainly good for the guys. Sanding wood and other activities are mundane. This field is ever-changing."

The prisoner organizations at OSP who have developed youth intervention programs would also like to get the word out that these resources and at-risk youth programs are available, especially to prospective sponsors, schools and to organizations that are working with kids on the streets.

"We also want to get these videos out to other prisons," BeauSoleil insisted. "In view of the success that we've had here, if other prisons in other communities across the nation start programs of a similar nature, then maybe we can address this serious problem in this country in a more sweeping fashion. This is everybody's concern. It's one of the major problems of our times."

For more information on the A/V Project Studio or any of the programs they produce, or to donate equipment, please contact Staff Advisor Dudley Janeway at OSP, 2605 State Street, Salem OR 97310, (503) 378-2289 by phone and (503) 378-3897 by fax.

VTU

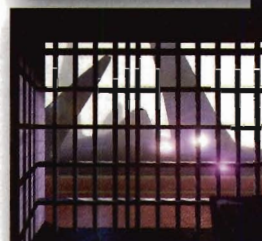
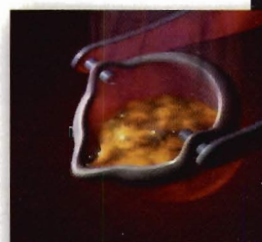


Title art for the Los Hermanos Crime Prevention Program.



The Los Hermanos program in action. Antonio Palacios shares his personal experiences above, while below, Reyes Miranda speaks to the group.

and acting various scenarios from normal life, such as having a jacket stolen, or a youth being offered drugs. They show how the situation might lead to violence. It's very educational to view them and watch the videos and see the dynamic of how such situations



EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Very Useful
Circle 042

Useful
Circle 043

Not Useful
Circle 044

What serious animators are coming to.



Using technology to advance the art of animation



They're coming to the New Animation Technology Exposition— or NATE for short. NATE is a three-day conference and exhibition that delves into the key computer animation issues facing animators today. NATE will help you master the digital technology you need to bring your animation to life.

The Conference

Keep up with the revolution! Offered at all levels of expertise, over 50 focused technical sessions on the most critical digital animation topics will help you reach new heights of creativity. Whether you're a traditional pen-and-cel animator just going digital or an experienced computer animator looking to perfect your skills, NATE will show you a world of new possibilities.

NATE. What serious animators are coming to. Visit our web-site for the latest NATE information! www.nateconference.com

It pays to get to know NATE early! Call 415/278-5280 to register now and get first choice of classes before they fill up. (Registration fees fully refundable until 2/15/97.)

| | Before 2/7/97 | After 2/7/97 | At the Door |
|----------------------------------|------------------|-----------------|----------------|
| Full-Day Tutorial | \$265 | \$295 | \$325 |
| 2-Day Conference | \$350 | \$450 | \$500 |
| VIP Package | | | |
| (2-Day Conference plus Tutorial) | \$590 | \$725 | \$795 |
| Product Exhibition Only | \$40 | \$50 | \$60 |

March 26-28, 1997

The Pasadena Center • Pasadena, CA

By Phone: 415/278-5280 By Fax: 415/278-5200
By Email: nate@mfi.com
By Web: www.nateconference.com

**Get your free copy of the New Animation Technology Exposition course catalog by phoning, emailing, faxing or mailing this coupon to:
 Registration Manager, NATE, 525 Market Street 5th floor, San Francisco, CA 94105**

Name: _____
Title: _____
Company: _____
Street: _____
City/State or Province: _____
Zip or Postal Code/Country: _____
Phone (please include area code): _____
Fax (please include area code): _____
Email: _____

☐ **Check here if your company would like to exhibit at NATE. Someone will contact you ASAP with information.**

NVT1296P

The Product Exhibition

See the latest, most amazing developments from over 40 of the most important technology providers in computer animation. Hardware and software suppliers spanning the industry will demonstrate their leading-edge products, and help develop solutions that work for you.

Your Career

Meet serious career animators like you! Everyone at NATE will be just as dedicated to animation as you are—and NATE's the place to interact with them. Learn what your colleagues are doing—and how.

NATE is produced in association with the World Animation Celebration, an entire week of animation festivities, fun, and film. For information on any of the events below, please call the World Animation Celebration hotline at (818) 991-2884.

The Los Angeles Animation Competition
 March 24-30, 1997 (Organized by Animation Magazine)

The Los Angeles Animation Celebration
 March 24-30, 1997 (Organized by Animation Magazine)

The Animation Opportunities Expo
 March 28-29, 1997 (Presented by ASIFA Hollywood)

The Animation Industry Seminars
 March 28-29, 1997
 (Presented by ASIFA Hollywood and Women in Animation)

Additional Highlights

The Opening Night Gala • Nightly Parties and Receptions • Tours of L.A. Animation Studios • An Intensive Internet Colloquium • Exhibition of Student Animation • The Cartoon Cafe • Daily Breakfast Symposiums • The Multimedia Pavilion • The LAIAC Award Ceremony • The Animation Art Symposium

NATE is sponsored by:

3D DESIGN

InterActivity

VIDEO TOASTER USER

DV

Miller Freeman

TROUBLESHOOTING

Common to everything made by the hand of humankind is the fact of fallibility, and though NewTek makes them with the best materials available, the same is true of the Video Toaster. With that in mind, I will be presenting a series of articles on common Toaster problems, and providing those solutions which the user with a reasonable amount of skill may use to resolve them.

As might be expected, if none of the solutions presented will put the Toaster back to work, then the last recourse will be to send your Toaster to a dealer or to NewTek for repair of the Toaster board. All users should be aware that the *only* avenue for authorized repair of a Toaster (or any other NewTek product) is through NewTek. As of this writing, no other service cen-

ter for this Toaster will need is the following:

1) Small flathead screwdriver for capacitor adjustment, and Toaster assembly screws.

2) Small and medium phillips head screwdrivers for computer assembly screws.

3) A multimeter that measures AC and DC voltage levels, and can test amperage and continuity. (Radio Shack carries several inexpensive, easy-to-read digital models.)

4) A directly generated video source, such as a camera, an NTSC signal generator, a laser disc player, or a television tuner providing a broadcast (not cablecast) television signal.

Dealerships and mid to high-end professional users

Y O U R

B Y C H U C K
ters have been authorized by NewTek. NewTek does recommend that users work through a dealership if possible, when the possibility exists that a board is in need of repair. This is because it is often difficult to resolve whether a problem resides in the Toaster card or in the host computer system, and the dealer may be able to sort this out and save unnecessarily shipping a Toaster to NewTek.

This month we will take a look at the problems which a user may encounter when starting a Video Toaster-equipped system. These include a couple of problems with starting the system itself, and several difficulties that can occur when you start the Toaster itself. Some of these will result from hardware difficulties in either the Toaster card or the host system and some may be the result of software problems. Software related problems can almost always be solved by the end user. Surprisingly, many hardware difficulties can also be resolved by the end user, though some will require repair by NewTek, or by a dealer.

Tools

The minimum tools that a user interested in maintaining

B A K E R
should also have a waveform monitor and a vectorscope to properly analyze both input signals and Toaster output.

Problem 1

Amiga 2000 with Toaster installed—Computer powers down by itself

•The A2000 power supply will shut itself down if it senses either a short or an open in its +5 VDC power circuit. The short or open can be anywhere in the computer's motherboard or in any attached cards. When this occurs in a system equipped with a Toaster, the Toaster is commonly the culprit. This happens often enough that we have a colorful nickname for the condition, "crowbarring the power supply" (i.e., it is like the Toaster is knocking out the power supply with a crowbar).

This is not a certainty, though, and the easiest way to test is to substitute another Toaster in the system. If system powers down with any Toaster card you put in, then there is an open or a short in the +5v line on the motherboard somewhere in the video circuitry. Check the slot itself first. If the system works fine with another Toaster, then it is

T O A S T E R

time to call NewTek for repair.

An alternative, if you do not have another Toaster but do have access to another system, is to test the same card in another system. If the second system also shows the "crowbar" effect, then the Toaster is at fault. If it does not, then the original host system has a problem.

We don't require that you test the Toaster in another system, or test the system with another Toaster to get the RMA, but if you do, you could save yourself a little time by being certain where the failure lies.

Problem 2

System will not boot after installing DPS TBC Software—Halts with CLI screen saying "Cannot find tool Analyzer"

•This is not a Toaster problem, but happens so frequently to Toaster users that I thought it would be merciful to include it. What has gone wrong is that the DPS install has overwritten the startup-sequence file on the boot drive with the startup-sequence from the DPS install floppy. Find your original Workbench floppy disk and copy the startup-sequence from the "s" directory on that floppy to the boot hard drive "s" directory. You may need to boot from the Workbench Floppy to get this accomplished.

Problem 3

When the Toaster software is run, the error "Toaster Not Responding" occurs.

•Are you using a multiscan monitor? You need the Sync Strainer from Prevue Technologies. The Toaster removes a sync signal from the Amiga video port which is not used by a single scan monitor such as the 1080/1084 series, but is required by multiscan monitors. The Strainer regenerates this signal.

•Toaster component cards may not be pressed together properly. Remove the Toaster and make sure all sub boards are tightly pressed together.

•The Toaster card is not seated in the slot properly (all models), or not in the correct slot (A3000 or A4000). Check the manual for your system to be sure that you have the Toaster in the video slot, and not in an ISA (PC compatible) slot. Remove and reseat the Toaster card.

•Slot connector contacts need cleaned, or the slot needs to be cleaned. You can clean the Toaster card's contacts with a rubber eraser. Computer slots should be cleaned with a cleaning solution such as ElectroWash, which may be sprayed into the slot, and does not require a utensil to be swept through the slot. Alternatively, you can use 90% or higher isopropyl alcohol as a cleaning solution on an appropriate lint-free cloth or utensil to sweep the contacts *very carefully*.

•Bad video input. Test with no

"You can clean the Toaster card's contacts with a rubber eraser. Computer slots should be cleaned with a cleaning solution such as ElectroWash, which may be sprayed into the slot, and does not require a utensil to be swept through the slot."

connectors on inputs 1-4, or direct from camera to input 1. If the Toaster comes up, try other sources on input 1 to see if the Toaster can boot with another source than you were originally using. If so, test your original source to be sure it is proper RS170A NTSC video. Also, check cabling and connectors.

•Center Frequency requires adjustment to range -2.1 (+/-1) Volts DC. See the sidebar on page 7.

•In an A3000: The Toaster card may be touching the top of the computer case. Place a non-conductive insulating material between the Toaster card and the top of the case. A full-length anti-static bag would do the job just fine.

•In an A4000: The Toaster card may be touching the A4000 RAM. Be sure the card is supported at the front of the CPU by slot guides. If necessary, place a nonconductive material between the Toaster card and the A4000 RAM.

•In an A2000 with VT2000: The FCC shield bracket may be touching pins on the Toaster card. Check the position of the FCC bracket, and shift it away from any pins it may be touching.

•Untrimmed pins on the Toaster main board resistor packs may be bent into contact with one another. Remove the toaster card from the system, and look at the back of the full-length main board at the end of the half-height section. There are several rows of leads (pins) protruding through the board at this location from a number of resistor packs. On some production units these were not trimmed off quite short enough, and the pins may bend and touch one another. If the leads look too long, they should be trimmed using a small wire cutter, to a length that does not allow them to touch one another. When this problem has produced the "TNR" error, trimming the leads will usually restore operation. If the leads were in contact with one another, but trimming the leads does not restore operation, call NewTek Tech Support for an RMA, and be sure you describe the condition of the pins to the technician.

If all else fails, the Toaster card is defective. Call for an RMA.

Problem 4

When you run the Toaster software, the error message "Toaster Unable to Genlock" occurs.

•Bad input or bad sync between inputs. Test with no connectors on inputs 1-4, or direct from camera to input 1. Check cables and connectors, and check that all video sources are in sync as they arrive at the Toaster inputs.

•Card is not seated in slot properly, or it is not in the correct slot. See above in Problem 3.

•Computer RGB monitor is not snugly connected. Check that the computer monitor cable is snug at both ends.

•In an A4000: Card may be touching RAM. See Problem 3.

•In an A3000: Card may be touching top of case. See Problem 3.

•On a VT4000: Jumpers may not be set properly for the model Amiga in which the Toaster is installed. Consult the manual to get proper jumper settings for A2000/A3000. For an A4000, if after the attempt to run the software, you also have the symptom of a green tint on Workbench screen, you have the wrong software installed for the version of Toaster card. Toaster software in version 3.1 came in two flavors: for the VT2000 (original Toaster) or for the VT4000. The install sets are easy to differentiate. If the disk has "System 4000" or "For the Video Toaster 4000" on the label, then the set is for the VT4000; otherwise it is for the VT2000. Toaster

few seconds.

Problem 7

The screen flashes red during Toaster software startup.

- There was a problem calling up information from the hard drive.
- There is a problem with the computer's motherboard. Refer to service center for diagnostics.
- Center Frequency not set correctly. See sidebar.
- Defective Toaster. Refer to dealer for confirmation and RMA.

Problem 8

When the Toaster software is run, the

"For an A4000, if after the attempt to run the software, you also have the symptom of a green tint on Workbench screen, you have the wrong software installed for the version of Toaster card."

4.1 detects both the system hardware and the version of Toaster card, and so should not be subject to such problems, except on those occasions when a user installs with one type of card, and then switches Toasters.

Problem 5

The screen flashes green during Toaster software startup.

- Bad source on input 1. Reboot with no sources attached to the Toaster inputs, and if that works, retry with a different cable and source on input 1.
- Bad sync between input 1 and another of the inputs. Remove sources on all but input number 1 and retry. If this works, retry with other inputs one at a time until the source that is not in sync has been identified.
- Center Frequency adjustment is not correct. See the sidebar on page?

Problem 6

The screen flashes blue during Toaster software startup.

- The Toaster software thinks that some component in the system has been changed since the last Autohue and runs diagnostics. When the diagnostics confirm that everything is OK, the blue screen flashes. Redoing the Autohue will eliminate the blue flash, and should reduce booting time by a

"Next time around, we will continue with other errors that may occur during the Toaster Software startup."

error message "Unable to load and initialize GPI" occurs.

- There is a conflict with the IBM Bridgeboard in your machine. Be sure that the Bridgeboard is not active when the Toaster is running, or try changing the Bridgeboard configuration so as not to interfere with Toaster operations.
- Mouse accelerator is running in background. You must deactivate it when running the Toaster.
- Screen blanker is running in background. Same solution as previous.
- Conflict with ParNet software. Same solution as previous.

That's it for this installment. Next time around, we will continue with other errors that may occur during the Toaster Software startup.

Chuck Baker works for NewTek technical support.

Care And Feeding Of Center Frequency

The Video Toaster is equipped with a variable capacitor called the Center Frequency Capacitor. This is something of a "master sync" control for the card, and may need adjusted from time to time. The procedure is as follows:

1) The cover of the computer must be open so that the Video Toaster card is accessible. Just removing the cover does this in the A2000 and A3000. In the A4000 and in Amiga tower models, cards that are blocking access to the side of the Toaster on which "VIDEO TOASTER" or "VIDEO TOASTER 4000" is stenciled on the half-size Toaster RAM card must be removed.

Note: This includes the Flyer in Flyer-equipped systems. If the Flyer is placed on non-conductive material, the cable between the Flyer and the Toaster may be left attached, so that

the Preview output can still be used.

2) A camera feeding live video or color bars from a color bar generator must be the source on input #1. Other inputs may be detached. The video must be coming direct, not through a TBC, switcher, or any other device.

3) Program and preview monitors must be hooked up. (See note in Step 1, if you have a Flyer.)

4) The Switcher software must also be running during the adjustment. If running the software results in a "Toaster Not Responding" or "Toaster Unable to Genlock" error message, *do not* cancel the message or click continue! As long as the message is on screen then the software is sending an activation signal to the Toaster, and the adjustment may be done.

5) On the VT4000 card, the CF capacitor ("cap") is labeled "Center Freq", and is located in the middle of the card, on the inner surface of the Toaster motherboard near the tall

metal case of a timing crystal. The CF cap itself looks like a flathead screw on a three-legged aluminum carrier.

On the VT2000 card, the CF cap is in the same location but is not labeled. The easiest way to find it is to look on the small portion of the main board that is not concealed by the two smaller component cards, right above where the Toaster RAM card has the words "Video Toaster" stencilled.

On either model Toaster, less than an inch away, moving towards the front of the computer, is a solder dot on the circuit board labeled "ERR1". This is the voltage test point for the CF cap. The CF cap is a single turn device, meaning that when you have turned it all the way around once, you start over again going through the same set of values. In other words, you can't get lost. It's like a clock hand, not a screw.

6) Adjusting center frequency has two phases; a rough adjustment which

is done visually, and the fine adjustment which is done with a multimeter. (Now you know why it is on the list!)

A. A Rough adjustment is done by turning CF until all monitors, program, preview, and RGB, show clean stable video. This will be best with the solder blob marker on the CF cap at the 10 o'clock position and the slot angled toward the one o'clock position.

B. Fine adjustment is done by attaching the ground lead of a voltage meter to the chassis of the computer, the positive lead to the ERR1 test point, and tweaking the voltage level to -2.1 VDC. Tolerance is +/- .1VDC. Be sure that video remains good on the monitors while doing the fine adjustment.

If you find yourself having to repeat the adjustment more often than once a year, you may wish to consider having the Toaster checked at NewTek, as the need for frequent adjustment can indi-

cate a problem in the CF circuitry.

An immediate check for possible trouble with the CF circuit is that once you have set your CF adjustment, you power the system up and down a few times, run the Toaster software each time, and check the voltage. If there is a consistent drift in one direction away from the proper voltage, (i.e., it keeps going up a little each time, or it keeps going down a little each time) then the CF circuit may be problematic. If CF drifts far enough to render the card inoperable again with just a few reboots, and you get the old "Toaster Not Responding" blues, you need to arrange for an RMA with NewTek.

If your Toaster's ability to sync properly varies with temperature, (i.e., it will not sync until it warms up, or it will not sync after it warms up, but syncs fine when first turned on) then the CF circuit has problems, and you should get an RMA.

VTU

EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Very Useful
Circle 045

Useful
Circle 046

Not Useful
Circle 047

Step Up to Panasonic S-VHS and Save \$2,000!

It's time to step up to Panasonic's Supercam and Superdeck, the S-VHS camcorder and VTRs that are bringing new levels of operation and sophistication to event, corporate and independent production around the country.

Now, when you purchase a new AG-DP800H Supercam camcorder from a *participating* Panasonic dealer, you'll receive a \$1,000 rebate from Panasonic. When you buy



a Superdeck Editing System (2 VTRs), you also get a \$1,000 rebate. Buy all three products and you'll save \$2,000!

To learn more about this exciting rebate program and the features and benefits of

Supercam and Superdeck, or to find the participating Panasonic dealer nearest you, call 1-800-528-8601 (upon request enter product code 06). Both programs run from October 1st, 1996 through March 31st, 1997.

Panasonic
Broadcast & Television Systems Company

TOASTER GALLERY



▲ **The Exiled King**

by Michael Carrigan and Bobby BeauSoleil

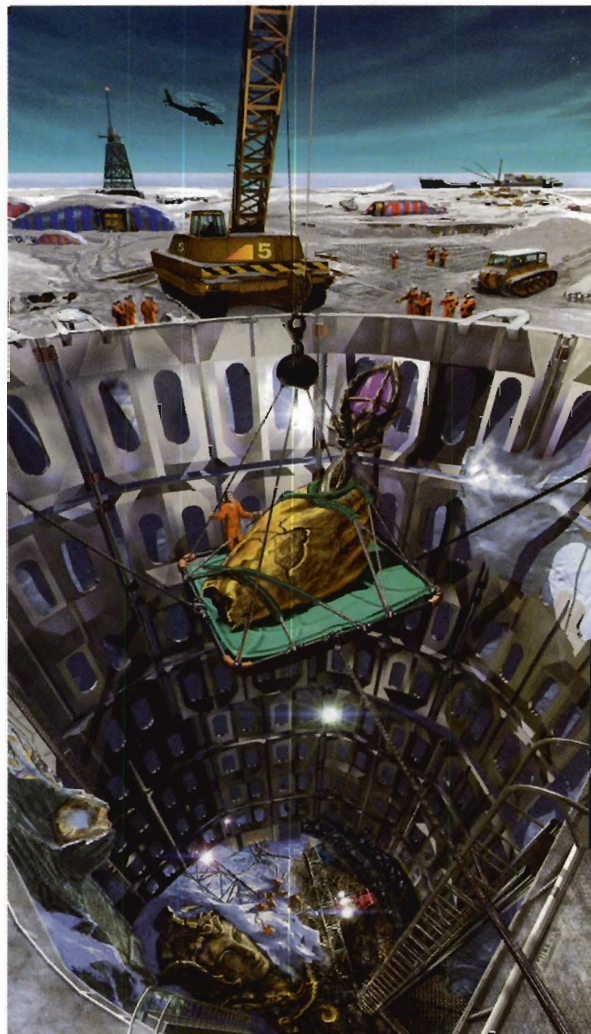
This image was inspired by the song "The Exiled King" by Bobby BeauSoleil and was created in LightWave on an Amiga 4000 with a 1 GB system hard drive. See this month's feature, "Making Time Count" by Rosemary Picado-Corral on page 32 for the full story of the Audio/Video Project Studio technicians at Oregon State Penitentiary.



▲ **The Theatre of My Youth**

by Jeff Willoughby

"I reconstructed the theatre from old photographs and my memories, as it is now a mini-mall. I am adding to it all the time, such as detailing the lobby with it's chandeliers and concession stand, complete with working popcorn machine and velvet curtains."—Jeff Willoughby of Video Graphics and Animation Specialists in Danville, PA. Reach him by e-mail at CompuPix@aol.com.



▲ **Atlantis in Antartica**

by Tom Miller

Tom Miller of Adventure Unlimited Media, Inc. in Livingston, MT, put everything together for this image in LightWave, then did all of the figures and some extra effects in Opalvision. The image was a two and a half week project for the cover of *Atlantis Rising* magazine. Tom used an Amiga 2000 with an '060 Blizzard accelerator and 64 MB RAM, Toaster and PAR.

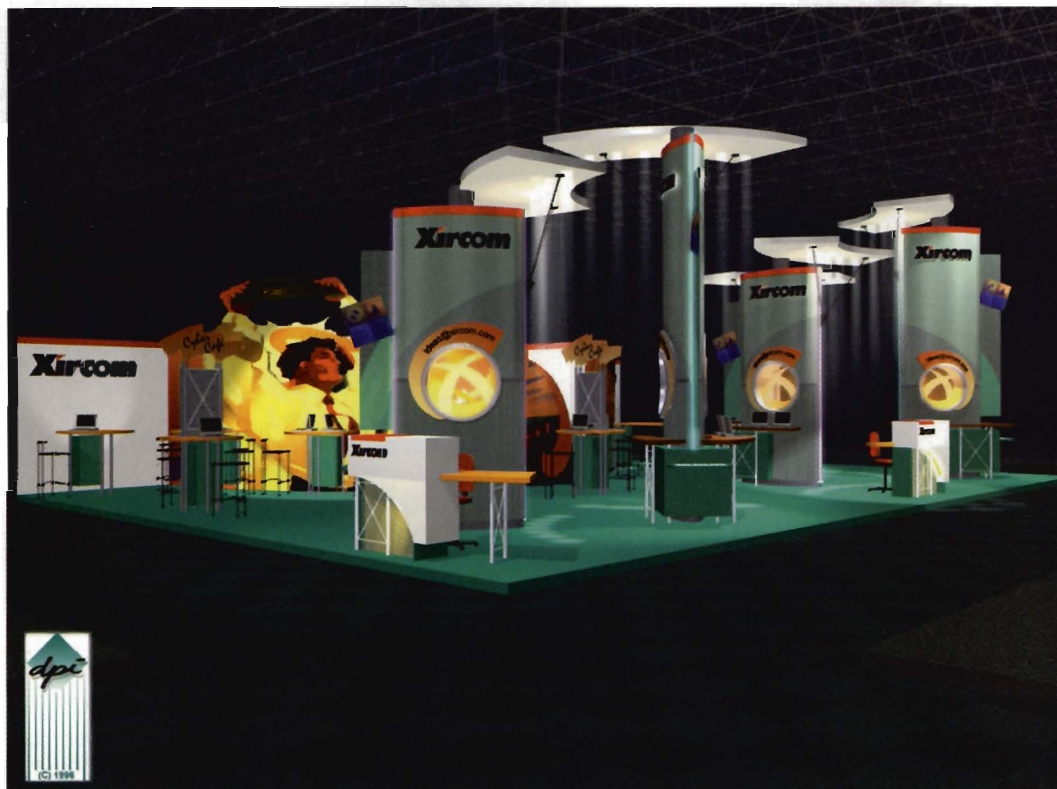
▲ **Area 51-UFO Plant**

by Tom Miller

Another project for *Atlantis Rising* magazine. You can reach Tom and Adventure Unlimited Media, Inc. by phone at (406) 222-6733.

▼ **Digitix Publishing Int'l. Convention Shot**
by Jochen Schlaghecke

Schlaghecke used Lightwave 3D 5.0 for modeling and rendering and WaveFilter to enhance the contrast of the objects. All image and clipmaps were made in Adobe Photoshop. They used PPro 200 Mhz machines under Windows NT 4.0 for rendering. The final image took 27 hours to render in a resolution of 3600 x 5100 pixels, using high Anti-Alias. The design was used for several conventions. All images remain property of Digitix Publishing Int'l. of The Netherlands. Reach them at *31-(0)77-462-1796, or by e-mail at digitix@plex.nl.



Surface Effectors

Do the Impossible On A Budget

by Erik Flom

Have you ever wished there was some way to animate surface parameters like Specularity, Luminosity, Transparency—even things like Fractal Noise, and Index of Refraction? Have you ever wanted to make a character blush with emotion? Have you ever tried to strafe a vehicle with bullet holes? Or create burning parchment, like the old Bonanza TV series? Would you believe that a single plug-in can do all this, and more, for only \$60?!

The Surface Effector plug-in by Prem Subrahmanyam is an excellent example of how powerful LightWave's plug-

hours of tedious image mapping. A Surface Effector uses a specially named Null Object to create a spherical area of effect wherein the animator can manipulate a wide range of surface parameters. Once the size of the area has been specified (using the definable settings), the animator is free to effect virtually any parameter found in the surfaces control panel.

Specifically, a single Surface Effector allows you to alter the following surface parameters: Red, Green, and Blue levels, Diffusion, Luminosity, Specularity, Reflection, Index of Refraction, and Edge softness. Additionally, it's possible to vary several parameters for the effector itself. You can animate the inner and outer range, add fractal noise, adjust softness and clip levels to create a wide range of effects.

Figure 2 shows a simple example: A white cube, with three different surfaces. Two surfaces (#2 and #3) have the Surface Effector Shader plug-in enabled, while the top surface (#1) is unaffected. There are two Surface Effectors in the scene, one at each corner of the cube. The one on the right effects the color, transparency, and luminosity of the surface (turning it a glowing red), while the surface effector in the left corner merely effects transparency. Notice that any surface or object not using the selected Shader plug-in remains unaffected.

A good example of how effective this plug-in can be is seen in the accompanying image by the talented artists at Interplay who are using LightWave and Surface Effectors in many of their upcoming game titles, *Shattered Steel*, *Starfleet Academy*, and *Star Trek 4: Vulcan's Fury*, to name a few. The image shows a ship being vaporized by the expanding shockwave of an explosion. The ragged edges of the ship can be seen eroding as the ball of plasma engulfs the ship. To quote Tim Donley, the artist in charge of this sequence:

"Primary release of this product has been through the Internet, so there is no packaging or printed instructions to speak of. All documentation is available in the form of text files in the included archive, including some great tutorials!"

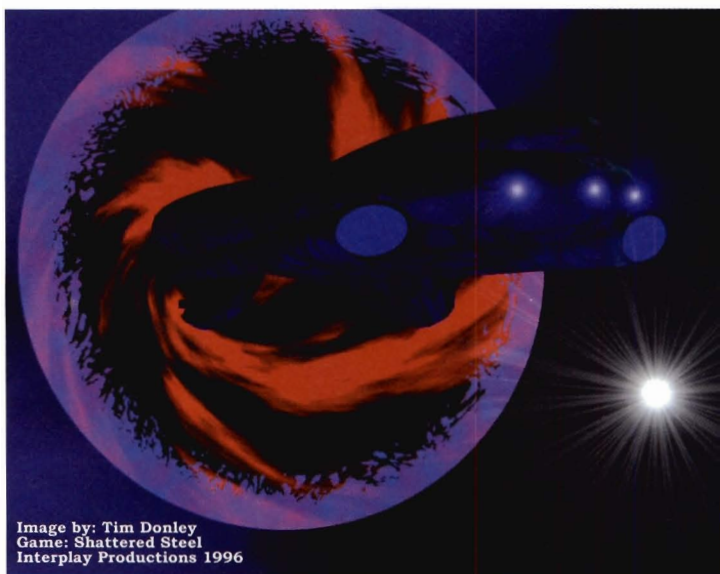


Figure 1: Surface Effectors was utilized beautifully by Tim Donley and the crew at Interplay for this scene from the upcoming game *Shattered Steel*.

in architecture can be. This cheap, easy to use plug-in adds so many new features to LightWave that I consider it a *must have* for any LightWave animator. Surface Effectors is a Layout plug-in for LightWave 5.0 (a non-GUI version is available for LightWave 4.0) and is available on all platforms. (Intel is \$60, \$80 for all other platforms.)

How Do They Do That?

This plug-in can simplify many tasks that previously required complex layers of animated image sequences—and does other things not even possible with LightWave alone. A few appropriately placed Surface Effectors can quickly create a dramatic effect that might have taken



Figure 2: A simple example illustrating three different surfaces.

"The image is a combination of two main surface effectors to achieve the glowing effect and a transparent fractal edge. The surface effectors are animated to make the fractal edge create a burning effect as it moves down the ship."

Without the Surface Effector plug-in, this probably would have entailed creating an animated greyscale clip map to dissolve the ship away. (You could offset the image sequence a few frames to create the luminosity map.) You'd then have to synchronize the dissolve effect with the leading edge of the plasma sphere—after 10 to 20 test renders (and several hours), you'd probably have something that looked halfway decent.

With Surface Effectors, all you have to do is create two Surface Effectors (one for the glowing steel, the second to vaporize the steel a few frames later), parented to the exploding plasma object. Make the size of the Surface Effectors slightly larger than the exploding plasma, add some fractal noise, and the next thing you know, the ship is vaporizing right before your eyes!

Punching blast holes into a detailed steel deck plate is as easy as placing Surface Effectors where you want holes to appear. Not only are the holes immediately visible in Layout (great for aligning blast holes with the object creating the hole), but you don't have the positioning, memory, and pixelation problems inherent in using bitmaps as clip maps. You can also parent several Surface Effectors together to create, for example, hot glowing edges around the holes.

All Play and No Work...

OK, lest anyone get the impression that this plug-in is a cure-all to everyone's rendering problems, let me assure you it does have its limitations. There's no way to apply an image map using a surface effector, and it can only effect the base color of any procedural texture (i.e., a Surface



Figure 3: Scene from Interplay's upcoming game *Starfleet Academy*.



Figure 4: A flower image using Surface Effectors.

Effector will wash out any pattern with the new base color, losing any detail like marbling, ripples, etc). Complex hierarchies can lead to lots of extra Null Objects (for control), and documentation is only available in electronic form. Creating the blush in the flower cheeks above was simple—a matter of 10 minutes. On the other hand, developing a complex blast sequence involves more than just a few surface effects, and editing the parameters can be as tedious as any other algorithmic surface texture.

Primary release of this product has been through the Internet, so there is no packaging or printed instructions to speak of. All documentation is available in the form of text files in the included archive, including some great tutorials! While some users might be put off by the lack of printed help, this plug-in is well worth the extra effort. It is possible to order the

plug-in on disk directly from Prem, but Internet savvy purchasers will benefit greatly from the constant updates made available on-line.

To retain compatibility with LightWave 4.0, early versions of SE shipped with a command line interface that was kind of clunky.

"For the price, it's the plug-in deal of the century, and I have to admit that I'd like to see more plug-ins in this price range! ...I bought this one without any specific need for it..."

Fortunately, version 2.0 has been released, and it incorporates a more intuitive control panel (for LightWave 5.0 users) similar to the one shown in Figure 6.

Parameters

Each of the parameters on the SE Configuration screen can be set to an



Figure 5: Another scene using Surface Effectors from Interplay's upcoming *Shattered Steel*.

initial value. Once an envelope has been selected for a given value, SE creates a standard Null Object controller for that surface parameter. This allows the animator to individually control surface attributes on a frame by frame basis—something impossible with LightWave 5.0.

All these weirdly named Null-Objects and controllers might seem a

little intimidating at first, but fortunately this plug-in includes lots of tutorials. Beginning with the creation of a simple Surface Effector. The tutorials advance through parenting and hierarchical control, all the way to a simulation of a photon torpedo blast, and a fairly decent replication of the old *Bonanza* effect (where the parchment map burnt through from the

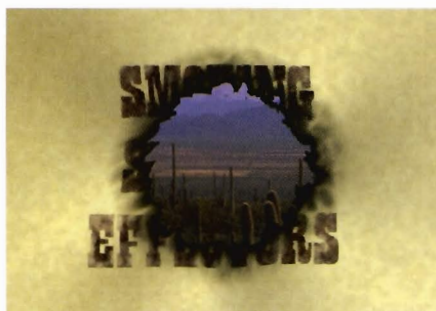


Figure 7: Surface Effector tutorials include a simulation of a photon torpedo blast and this replication of the old *Bonanza* effect.

center to reveal the credits.) There are even a few generic hierarchies saved out, so you can load complex Surface Effectors into your scene instead of

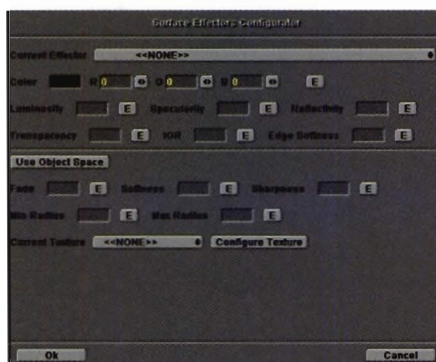


Figure 6: Surface Effectors version 2.0 ships with a more intuitive control panel than version 1.0.

had a small, unassuming archive in my e-mail box. Having used it for several small projects, I have to say that it has lived up to most of my expectations. If plug-ins are like new tools for our LightWave toolbox, then Surface Effectors is the Craftsman of plug-ins—cheap, functional and effective. Maybe not guaranteed for life, but show me a software program that is!

For more information about the plug-in, visit the Surface Effector Web Page at: <http://www.noblestar.net/~prems/surfeff.html> Or, contact: Prem Subrahmanyam (Ispeaking phonetically] SOO-brah-MAHN-yum) prems@star.noblestar.net



Figure 8: Surface Effectors used here to create the force field blast in Interplay's upcoming game *Shattered Steel*.

building them manually. By the way, make sure and read the warranty—it's not your standard document!

For the price, it's the plug-in deal of the century, and I have to admit that I'd like to see more plug-ins in this price range! Unlike more expensive plug-ins, I bought this one without any specific need for it—it just seemed like a *must have* tool because of its utility. If more plug-ins were this cheap, I think there would be a lot more LightWave plug-ins sold.

I first heard about this plug-in on the LightWave Mailing List on the Internet, and thought, "For the price, I can't go wrong!" One postal money order and a few days later, I

LightWave Mailing List Info:

For information, send e-mail to: majordomo@tomahawk.grandi.com. Message should include the phrase INFO LIGHTWAVE on a line by itself.

VTU

Erik Flom is the founder of ELFWorks 3D Construction Co., a full service multimedia facility in the San Francisco bay area. Visit his Web page at: <http://www.aboveweb.com/ELFWorks>

EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Very Useful

Circle 051

Useful

Circle 052

Not Useful

Circle 053

THE BEST OF LIGHTWAVEPRO

ORDER NOW!

COMPILATION BOOK
INCLUDES CD-ROM

The Best of LIGHTWAVEPRO Compilation Book

- A collection of over 100 articles previously published in the LIGHTWAVEPRO journal.
- Written by the world's top LightWave 3D experts, including animators from Amblin Imaging, Area 51, Foundation Imaging and other top animation houses.
- Includes a CD-ROM with sample models, surfaces and LIGHTWAVEPRO disk programs.

ONLY \$39.95!

SHIPPING AND HANDLING: \$5 in the U.S.,
\$8.50 in Canada, and \$20 for
international airmail.

SALES TAX: Please add appropriate sales tax
for residents of CA, GA, IL, KS, NJ, NY, TN & TX;
in Canada please add GST.

Pay by credit card (Visa, Mastercard, or American Express) or send a check or money order to:

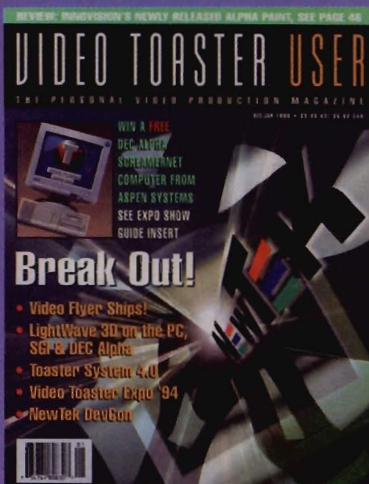
Miller Freeman Books, 6600 Silacci Way, Gilroy, CA 95020

fax 408.848.5784 e-mail: mfbbooks@mfi.com web: <http://www.books.mfi.com>

**CALL 800.848.5594 or 408.848.5296
for MC/VISA/AMEX orders**

YOU CAN GO

WITH VIDEO TOASTER



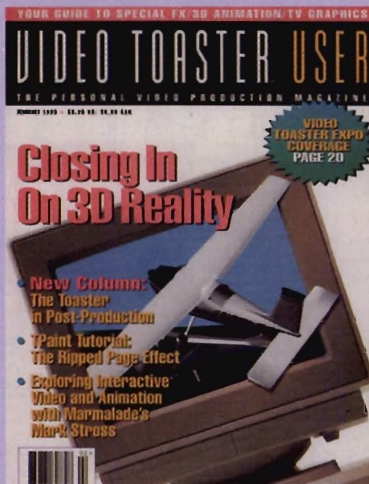
December/January 1995

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



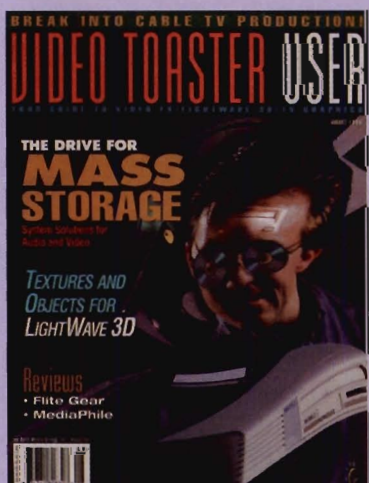
July 1995

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



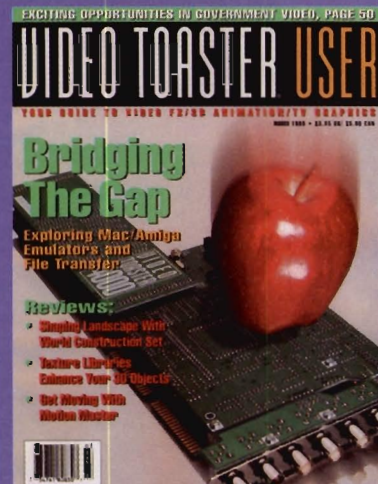
February 1995

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



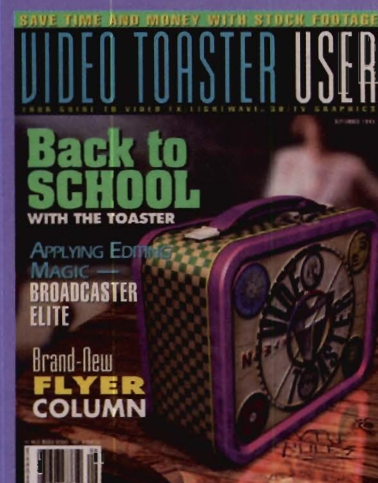
August 1995

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



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



September 1995

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

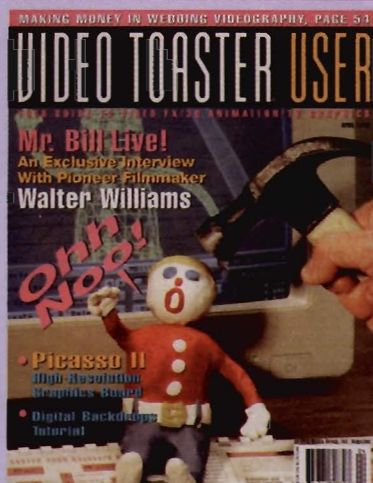
Each issue - \$10

Please allow 4-6 weeks for delivery. All Non-U.S. Orders payable in U.S. Dollars by VISA, MasterCard or International Money Order only.

California, Georgia, Illinois, Kansas, Tennessee, Texas and New York residents must include applicable sales tax.

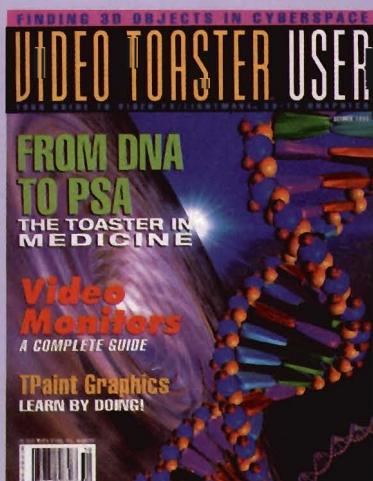
BACK IN TIME

USER BACK ISSUES



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



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



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



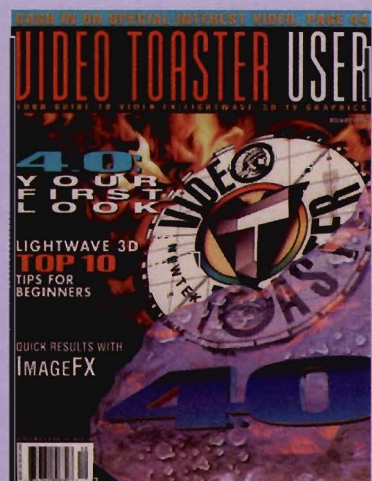
November 1995

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



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



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

To Order:

Call: 1.800.444.4881 (U.S. Only) or 913.841.1631 (Outside U.S.)

Or Write: Video Toaster User Back Issues
1601 West 23rd Street, Suite 200
Lawrence, KS 66046-0127

Fired Up

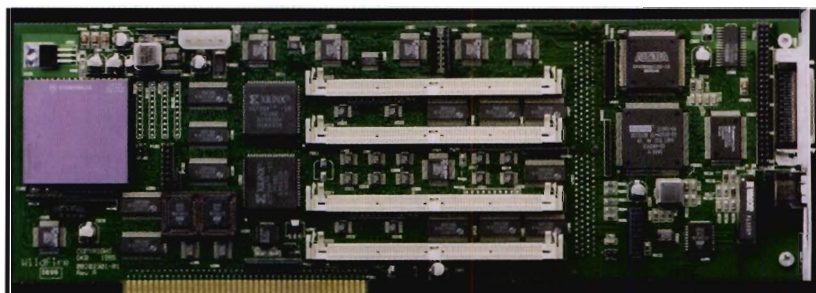
DKB's WildFire '060 Accelerator

by Doug Johnson

DKB has introduced a new '060 accelerator for the Amiga 2000. The WildFire '060 sports on-board memory, as well as on-board SCSI, Ethernet, and expansion. The processor it runs is the Motorola 68060, running at 50 MHz. System requirements for the WildFire '060 are an A2000, running system 3.1.

Before I get into the installation, I think it's important to say again that you *must* be running system 3.1, both the software and ROM's in order to get this powerhouse to work. Before you run out and upgrade the OS in your A2000, remember that system 3.1 is not an official Commodore release.

Commodore was working on 3.1 when they went under, so they never officially released the new system. Another company finished the work and released the software and ROMPs.



DKB's WildFire '060 accelerator.

The 3.1 upgrade is very cool and has a number of improvements over earlier versions. However, because it isn't an official release, many companies won't guarantee that their product will run under it, and until somebody makes an official release, NewTek will not provide tech support to machines running 3.1. Bummer.

If you're already running 3.1 or really want a screaming fast A2000, then the WildFire is an awesome accelerator. In some ATBB benchmark tests the WildFire performed up to 47% faster than the Cyberstorm '060.

Lock and Load

Installation is fairly straight forward. If you already have an accelerated machine, then you'll find it very simple to install the WildFire '060. The only possible hitch is that the board the wildfire lives on is long. It's so long that in order to fit it inside your A2000 you might have to remove any card in your machine and even loosen the screws on your power supply (I did). Once you have plenty of breathing space you might still have to apply some pressure on the front and back of the case

itself in order to get that extra millimeter the board requires.

The first thing you need to do is install memory on the accelerator. It's possible to load up to 128 MBs of RAM into the WildFireP2s four SIMM sockets. In order to get the best performance from the WildFire it's important to use 60ns 72 pin SIMMs. (You have to use 72 pin SIMMs, but using the 60ns variety will let your WildFire really shine). WildFire will accept 60, 70, or 80ns RAM, in either 4, 8, 16 or 32 MB sizes. The SIMM sockets are easy to get to and easy to use. The best way to install memory is in pairs. If you install identical memory in pairs then the WildFire will use interleaved 64 bit wide memory features. The instruction manual shows very clearly how to install the pairs.

Once the board goes in, you can crank the screws to your power supply down, but don't put any of your expansion cards back in yet. It's best to boot the machine and see if everything is working OK. Once you see your workbench, then you can power down and start adding cards. If you're an extra cautious type, you may want to put them in one at a time and reboot the machine, so if there's a conflict, you'll know it right away. Also, take any precautions necessary to prevent damage to your cards from static electricity. It really does go in easier than it sounds.

Fast Features

The fact that a 32 bit DMA SCSI II fast controller is right on the card is great. It removes one of the bottle necks that could slow an '060 enhanced A2000 down. Adding drives is the same as with any other SCSI controller. Once the drives are installed and the board is in place you can use the RapidSet software (included with the WildFire) to format and partition your drives. DKB says you don't have to re-partition your drives but since different controllers write partitions differently, it's not a bad idea (Don't forget to backup a hard drive before changing the partitions, or you could lose all of your data.) RapidSet has complete documentation on the disk. One important note, do not use the power connector on board the WildFire to power your drives. It's not for power out-put, it's for power in-put. Why would an accelerator need an additional power in-put? Future expansion.

The WildFire '060 also has built in 10base-T, RJ-45 Ethernet which can use twisted pair or optional thin coax connections to your network. In order to use the ethernet connection, you will have to purchase additional software like Enlan-dfs from Interworks or Amiga Envoy from Intangible Assets Manufacturing.

Networking is essential to many Amiga users today. In our office, our Amigas have to play nice with other Amigas, PCs

and Macs. The WildFire '060 did this perfectly. Incidentally, since the ethernet is right onboard the accelerator it leaves you a free slot to add yet another peripheral. The WildFire '060 also comes with a two year warranty from DKB.

There was so much interest in the WildFire that DKB was forced to release an early version of the accelerator. This version was released with the SCSI disabled for development reasons. When the SCSI controller was perfected, DKB replaced all the pre-release WildFire boards.

I found support at DKB to be great. They answered the phone on the second ring and helped me with any question I could think of (no matter how dopey).

DKB says they are working on an '060 for the A4000 for sure and would like to create one for the A3000 (no promises there though). The main rea-

son that they need to redesign the '060 for the A4000 is real estate. As I stated earlier the WildFire is a *long* board, and every bit of that board is being used. DKB felt that if they were going to build

and have been tested showing amazing 70 MBs per second data transfer rates. Imagine a PCI video accelerator for your A2000! This expandability will keep the WildFire around for a long time.

The hardest part about getting the WildFire is simply deciding if you want to spend the money. At over \$1300.00 the WildFire costs as much as a new Pentium-based computer, (not a real powerhouse) but if you still need your Amiga as I do—or just love your Amiga, as I do—then the price tag won't be much of an issue.

"I found support at DKB to be great. They answered the phone on the second ring and helped me with any question I could think of (no matter how dopey)."

an accelerator for the A4000, it was important to build one that would fit easily inside the machine, and not require any case "modifications." Once they get the size down, we'll be seeing a WildFire for the A4000.

One feature I hadn't mentioned are the two connectors on the back of the WildFire '060. They are part of the accelerators PCI expansion bus. Apparently these connectors are already working

DKB can be reached at :
(810) 348-3821 Sales:
(810) 348-3755 Tech:
(810) 348-3531 Fax:
Or on Compuserve
GO DKB\$OFT

VTU

Doug Johnson is a partner at Broadcast Business Group in Redwood City. Reach him at thx1138871@aol.com.

TECH SUPPORT TIP OF THE MONTH

Toaster Tip of the Month

The VT4000 (Toaster 4000) card ships ready to install in an A4000, but when used in an A2000 or A3000, various changes need to be made to configure the card for those machines. Some users miss these steps in the manual and call Tech Support, greatly worried when the card does not work. Be sure to review the manual fully before installing the VT4000 in any model Amiga.

Exercise care to reassemble the card properly after it has been taken apart to set the jumpers for the A2000 or A3000 operation. Users frequently get pin headers offset from the connectors when putting the card back together. There are two header/connectors which must be matched when mounting the "Ana" (the square card) to the "Mom" (the full-length Toaster motherboard). Be sure to look into the "sandwich" from several directions to make sure the headers and connectors are properly matched, before you put in the screws to lock the boards together.

There are also two connectors for mounting the BNC daughter card to the Toaster analog card, but only one is used when assembling the card. The upper connector is used when the VT4000 is to be used in an Amiga 2000. The lower connector is to be used if the VT4000 is used in an A4000 or A3000. In either case, you need to be careful not to get the pins offset from the connector as you mount the BNC card.

You should also check the connectors on the BNC card to be sure both the center pin and the insulator sleeve around it are in place. If these are faulty, contact NewTek Tech Support for an RMA for replacement.

Flyer Tip of the Month

The Flyer software still has difficulty in properly cleaning up obsolete temp files on audio drives. Over time, obsolete files will accumulate, and the "Voidall" command does not remove them. Eventually this can lead to a condition where a drive that does not seem to be very full actually has no room available for temp files. This can cause the error message "No Audio Drive available" when attempting to play back a project. Other audio problems such as stuttering and dropouts can occur.

The solution at present is to reformat the drives. Audio clips can be safely moved to a video drive, for temporary storage, and then the user can reformat the Audio drive using FlyerHDTTools. Once the process is complete, the user should copy the audio files back to the audio drive, and remove them from the Video drives.

Chuck Baker works for NewTek technical support.

Digital Motions Vol. 1

More Than Moving Backgrounds

by Joe Tracy

Digital Motions Volume 1 (\$149.95 by Matrix Productions) is a set of 20 animated backgrounds for use in video and Flyer projects. The backgrounds are available on your choice of a Video Toaster Flyer Clip CD or a JPEG Image Sequences CD. For a higher price (\$199 - \$249) you can get the animated backgrounds on S-VHS, æ SP or BetaCam SP. I'd recommend the CD as the higher priced tapes don't come with the object, scene, or image directories which is what makes this product worth its price.

Transferring Files

I reviewed the Flyer Clip CD format of Digital Motions Volume 1. Since the CD is content only, it is your job to transfer all the files, directories and clips to your hard drives. If you're not used to doing this, the directions Matrix Productions includes with the CD will be of aid. Using an Amiga/Video Toaster 4000 Flyer set-up, I had no problems transferring the clips to my hard drive. I simply moved the directory on the CD titled Flyer Clips to one of my two 9 GB A/V drives. This automatically copied all the clip files. If you purchase the CD and transfer the clips, be sure to make dinner plans, as the transfer does take a couple of hours. Upon its completion, you will have a folder directory on your drive that will keep your animations organized in one location.

In terms of background length, the clips last anywhere from 4 seconds:20 frames to 13 seconds:10 frames. A sheet of start, end, and lead-in frames is included for those who wish to use the scenes in LightWave 3D or reanimate them. Reanimating some of scenes isn't a bad idea either. While most clips I transferred looked very clean, a couple of them had a lot of video noise in them. In particular, a background animation of spotlights shining down with a blue background. When I re-rendered the scene, however, there was no noise and the animation was very crisp. I

deleted the clip and transferred it once again, but the video noise remained.

What Do You Get?

So what type of background motions are included with the CD? Most of them are moving shapes on still or moving backgrounds, and many have a side or top bar for titles. There are some pretty cool specialty backgrounds, like the animated glass heart (more on that later), the moving money background, patriotic flag, moving football field and the Big Savings commercial-like animation. As far as the others, it was the more simplistic ones, like slow mov-

ing spotlights on an angled wood textured background, that I saw the most potential with. I didn't see as much potential with clips that had a lot of distracting shapes or many duplicates of the same moving object. There are very few of those, however, as most of clips stand out in a simplistic, yet very useful manner. We're not just talking about flat backgrounds, either. Most of the scenes on the Digital Motions Volume 1 CD make excellent use of depth of field, reflections, shadowing, lighting and movement.

The selling point of the CD for me wasn't the

actual background animations. It was the including of the scene, image, and object files that can be manipulated in LightWave that caught my eye. And some manipulations can be very easy, yet powerful. For example, I loaded the glass heart animated scene into LightWave and then replaced the glass surface with a Flyer clip. It worked flawlessly and the result was something that Wedding videographers would relish. Because my company doesn't film weddings, I instead loaded a Flyer clip of Keiko, the whale from the *Free Willy* movies, onto the heart. We had a song written for the three part TV series we did on Keiko titled "Keiko, We Love You." If this CD had been available last

**20 BROADCAST QUALITY
ANIMATED BACKGROUNDS**



**AVAILABLE ON
CD-ROM OR PROFESSIONAL
VIDEO TAPE FORMATS**

Spring when we did the series I would have incorporated the glass heart, with Keiko Flyer clips playing on the glass surface, into the finished project. Because the scene files are included, I could have easily manipulated the scene, including the movement of the heart and choice of background, to accommodate my needs.

Out of the 20 moving backgrounds, over half seem directed towards general purpose uses. Out of the specialty ones, there's a football animation for sports (X's and O's flying past a moving football field), two for money (a spectacular "Big Savings" animation and one dollar bills moving into the distance), one for patriotism (a slow waving animated flag with patriotic stars rotating in and out from the left side), and one for events (a clock with animated months and time moving behind it).

So, is Digital Motions Volume 1 for you? Only you can answer that question. If you are a subscriber to Club Toaster and have found use for the animated backgrounds included on

seems to start and end too soon). Rendering isn't a bad idea, however, as it gives you the opportunity to personalize the backgrounds and colors to fit the project you are working on.

If you are interested in obtaining more information on this product, Matrix Productions' e-mail address is matrix@dhinter.net. If you have access to the internet, you can download samples of the background animations by going to their Web site at www.matricpro.com/digitalmotions.htm. Their phone number is 1-319-378-9648. They also have a 800 ordering line at 1-800-962-1873. Matrix Productions' mailing address for ordering is 1111 Dover St. N.E., Cedar Rapids, IA 52402.

VTU

Joe Tracy is editor in chief of Video Toaster User. Reach him by e-mail at jtracy@main.rosenet.net.

those CDs, then I have no doubt that you'll find use for the animations on this CD. While the price is \$149 for the set of 20, when you break it down you are paying \$7.50 for each animated background, plus getting the scenes, image and object files as a bonus. Keep in mind, however, that you may have to re-render some of the scenes if you want them longer (like the Big Savings animation, which

"While the price is \$149 for the set of 20, when you break it down you are paying \$7.50 for each animated background, plus getting the scenes, image and object files as a bonus."

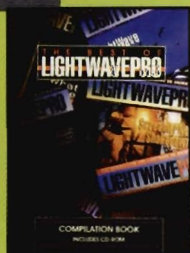
Top animators' secrets revealed!

Unlock the power of NewTek's **LightWave 3D** with this collection of tips, techniques, and ready-to-use objects.

Learn the basics and advanced techniques for 3D object creation and movement.

Discover the tricks used by animators from Amblin Imaging, Area 51, Foundation Imaging and other top animation houses.

Order your copy by calling 800-848-5594



ISBN 0-87930-455-3

THE BEST OF LIGHTWAVEPRO

ONLY \$39.95 WITH CD-ROM!

Shipping & Handling: \$5 in the US, \$8.50 in Canada, & \$20 for international airmail.

Sales Tax: Residents of CA, GA, IL, KS, NJ, NY, TN, & TX please add appropriate sales tax; Canadian residents please add GST.

Available from



6600 Silacci Way • Gilroy, CA 95020 • Phone: +1-408-848-5296 Fax: +1-408-848-5784 • E-mail: mfbbooks@mfi.com

VTU7

HOT & NEW
for
Toaster and Flyer



HOT & NEW
for
Toaster and Flyer

FliteLine AV8R Available NOW! \$249.95

MegageM's fast, proven timeline technology plus interactive Flyer clip edit controls: play, pause, jog, shuttle, stop, goto in/out, set in/out, & more. Instant 'audio-autosync-to-video', real-time timecode displays, & optional hardware edit controller with 7 function keys & jog wheel. With virtually zero learning curve, you'll be using AV8R in minutes! AV8R makes some of your toughest Flyer edit jobs FAST and FUN! AV8R complete with optional hardware edit controller - only \$499.95!

YBT Timeline Viewer Available! \$99.95

Instantly shows timing relationships among video, audio, wipes, CG overlays, & more. YBT has time mark overlay; hotkey, mouse, menu, & AREXX controls; built-in quick-reference, and more. Answers the need of every Flyer and Toaster 4.1 owner - a project TIMELINE!

"YBT is awesome... just get it!"

VideoGems CD Available NOW! \$99.95

Up to 60 new effects, 12 new CG colorfonts, new framestores and more for Flyer and Toaster 4.1 systems plus over 400 all-new LightWave objects of real-world terrain - Grand Canyon, mountain ranges, and even a big patch of the Red Planet, MARS! Easy Toaster/Flyer installation and easy multi-platform access for LightWave objects and image files, sample renders, and scene files.

Special, and for a limited time only - YBT and VideoGems Bundle - ONLY \$149.95
And a FREE Bundle Bonus - The FractalPro Image Library CD!

Surf the web to <http://www.megagem.com> for color screen shots, FREE sampler YBT program, VideoGems images, and much more. Full line Amiga & NewTek sales, hard drives, systems, & more!

MegageM Digital Media

1903 Adria Avenue Santa Maria, CA 93454 Phone 805-349-1104 FAX 805-922-5003

FOR INFORMATION CIRCLE 101

Pump It Up

A Unique LightWave Work-Out Video

by Chris Seiler

O recently had a job come in that required so many different elements, I thought sharing it with you would make for a pretty good tutorial. I like to go by the philosophy, "Never turn down a job, no matter what." Sometimes you just have to get paid to learn new stuff. The client wanted to make a fitness video for the "Body, Mind and Soul." She wanted a computer-generated muscle man, to be known as Hu-Me, who could work out with her through various exercises and also have some dialog with her during the routines. Hmmmm...

In the opening of the video, the client wanted to describe how to get in touch with one's inner soul to better prepare for the exercises. To visually represent this, a number of different elements would be needed. For the introduction of Hu-Me there was to be a 3200 frame scene beginning with the "birth of a star" (small explosion in space) that generated a light vortex, which would come out of the heavens, entering the top of Hu-Me's head and anchor into the center of his heart with a bright light. With each breath he took, this light source would slowly get brighter and brighter, until a his inner energy suddenly released, expanding outward in all directions. As the light beams extended out from his heart center, a dazzling display of his molecules fully energized and moving about him would be dissolved in. (That's not all folks.)

She also wanted to have eight negative thoughts (anger, limitations, I can't, etc.) release from her body in the form of swimming fish as she progressed through the exercises. Now, at the end of the workout during the cool down period, she was to start slowly spinning around with her arms out, as children do in a playground, and dissolve into a computer generated Octopus that represented the release of those negative thoughts. (Hang in there folks, it gets even better!)

From each of the Octopus' eight tentacles, one of the

negative thoughts would come out and go swimming off with the others—to be intercepted and destroyed by a loving, playful Dolphin. Now this is no ordinary Dolphin. This one needed to have the same radiating energy release (light beams) that Hu-Me had in the beginning. It would cruise up along side of those negative logos and destroy (dissolve) 'em with a light beam shooting right out of it's head.

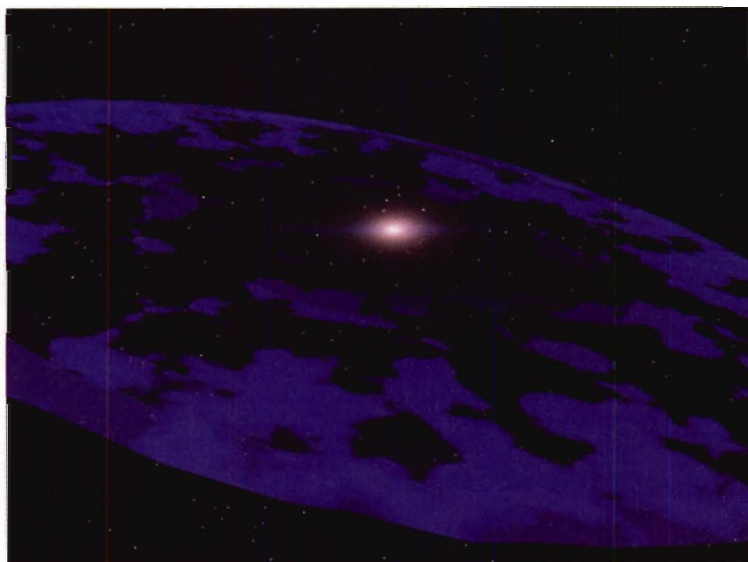
What does this all have to do with a workout video you ask? That's a good question. But hey, if you're getting paid, who needs answers—and what a great learning opportunity. Oh, and one more thing. She asked if this could be done in four weeks.

Where do You Start?

With my notepad full and my CPU heating up, I calmly replied, "Give me a few days to organize a proposal." (Then I spent the next 48 hours asking, "Did she say dolphin...swimming?") There were a number of tasks at hand. I needed to figure out how many shots were going to be full-blown composites, (using digitized video as a background image sequence with 3D objects added over the top) and how many scenes would be straight ahead rendered animations. With this many elements and the

time limitation, utilizing all available resources would be a necessity. For example, all scenes involving the muscle man Hu-Me would use the Humanoid (muscle man) from Crestline software, a completely pre-modeled figure that loads right into Layout ready to animate. I needed to create an exploding star with an expanding shock wave and a white light vortex that "comes down from the heavens."

Here is a hot tip: A majority of this project's elements were created using variations of tutorials presented in *Video Toaster User* and *LIGHTWAVEPRO*. The key is to adapt the techniques from the tutorials to your own needs. It can save you so much time and open up the learning and understanding process—something we all should keep striving for, so keep reading!



"The light vortex is a variation of the shock wave object with the center points of its morph target pulled down in the -Y axis (to simulate a symmetrical tornado type shape), a white surface color and opposite settings in the transparency channel is fractal noise velocity was added."

The Birth of A Star

For the "birth of a star" explosion scene, I used three star fields (random stars and actual stars in the Objects:/space directory). I also used a Nebula object created with a giant sphere slightly larger than the size of the star fields, the polygons flipped inward by hitting the (f) key in modeler, and surfaced with a deep blue transparency mapped fractal noise.

I also used a lens flare with a 15 frame envelope (no tension) ramped up to 120 percent, then 20 percent was used for the explosion. The expanding shock wave object used morph targets as the work around to get a transparency mapped fractal noise texture to move (velocity in the texture panel) in a non-linear fashion from the center outward (same concept as the "Saturn Rings" tutorial in the LightWave manual).

The light vortex is a variation of the shock wave object with the center points of its morph target pulled down in the -Y axis (to simulate a symmetrical tornado type shape), a white surface color and opposite settings in the transparency channel is fractal noise velocity (texture moving towards the center instead of out) was applied.

For the "sudden release of energy" from his heart center, the use of light beam objects (a cone object that comes with LightWave) were sized to zero and quickly enveloped up along with the timing of a nice little group of lens flares in the center of Hu-me's chest. For an added effect to the light beams, a "cookie cut" image transparency mapped with world coordinate on and a slow velocity gave the look of a light source shining through smoke. The appearance of rays of light bursting out of his chest was the effect. So is your head swimming? Actually mine was too, but most

of this is not really to complicated if you have the basics of Light-Wave under your belt.

M a k i n g M o v i n g M o l e c u l e s

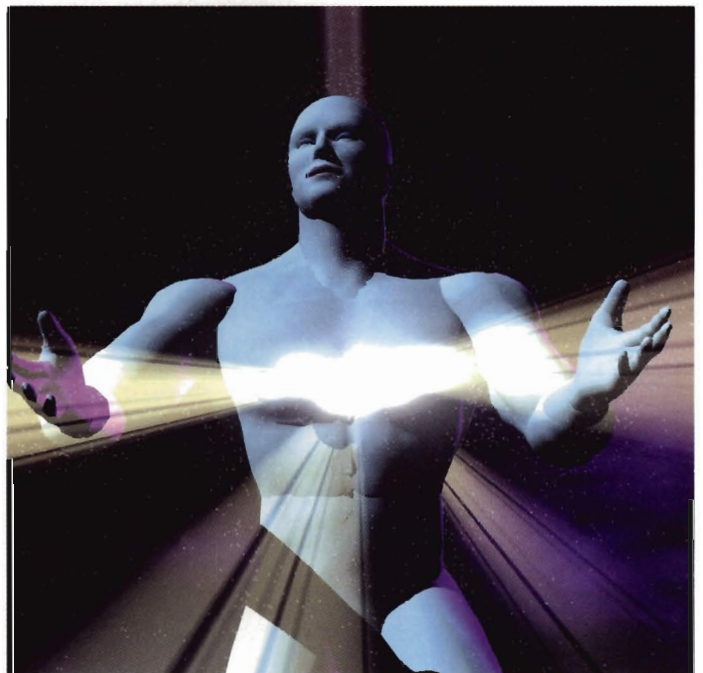
For the final touch, we needed a representation of Hu-Me's molecules moving all over his body. This is a fast an easy solution that can be used in a number of applications. The hu-

manoid model comes with all of the body parts as separate objects that are parented together in Layout for the full human object.

First, make a separate directory called human molecules, or something to that effect. Then, take each individual part, one at a time, and load it into modeler (i.e., layer one, load the head object, now hit the (h) key to kill the polygons). You should only have points in the shape of the head visible. Use jitter (tools menu) to randomly displace the points. Next, you can use the modeler macro (Amiga) or Custom pop up (Intel) button and run points to polys. Give it a surface name with the (q) key such as "molecule", and save it out as "head-mol.two" in your new body parts directory. Repeat this process for all other body parts that will be used in the scene.

Back in Layout, load each new molecule object and parent it to the body part it was made from. Go into the displacement map (objects panel) and select fractal noise, texture size .1 for X, Y, Z, and texture velocity .05, .02, .07. Go ahead and surface it to your taste. I used white and boosted the luminosity to 70 percent. (We're talking molecules here. Are they white? Who knows this stuff?)

Now go to the scene menu and hide all objects. Select the molecule objects as being visible in Layout. Make a wire frame preview. It should look like a bunch of hungry mosquitos zipping around in the shape of our human. Some tweaking is usually necessary in the amplitude, texture size and velocity. By setting up a dissolve envelope (objects panel) timed with the burst of energy. And this effect did it's job. You could also use this effect for a swarm of angry bees by giving it an erratic motion and sizing or stretching it as it moves around. As you can tell, a lot of bells and whistles went into this opening scene.



Hu-me the 3D muscle man leads the work out video.

Hu-Me In Action

The Humanoid composite scenes were limited to four 300 frame (15



Hu-me composited over the live action video. Pump it up!

second) sequences, each of a different exercise. In order to do this type of compositing, the use of a video capture card such as the TBCIV and the Personal Animation Recorder from DPS was necessary to digitize the video to use it as a background sequence. If you're serious about LightWave, a PAR or similar device is a *must*.

The initial footage was shot with the camera locked off and additional passes were shot using a stand-in person. By using the stand-in footage as a background sequence (effects panel) and enabling Show BG (options panel), a greyscale image was displayed in Layout's camera view. This stand-in shot was used to place the humanoid in the composite; once the 3D model Hu-Me was lined up over the stand-in figure in the background image.

The task of matching LightWave's lighting to the real-world lighting created additional hours of tweaking.

***"The task of matching
LightWave's lighting to the
real-world lighting created
additional hours of tweaking.***

***Generally high-contrast
background footage is
easier to match."***

Generally high-contrast background footage (obvious dark shadows, etc.,) is easier to match. Thankfully, almost all of the footage was shot in the sun. Finally the background was replaced with the final 300 frame BG sequence and it matched almost perfectly.

***"A note on using BG video
sequences for compositing: if
you're new to this, make sure
your sequence is shot with
the camera locked down (not
moving)—your life
will be a lot easier."***

A note on using BG video sequences for compositing: if you're new to this, make sure your sequence is shot with the camera locked down (not moving)—your life will be a lot easier. Trying to match the LightWave camera to another moving camera is just plain tough! With the use of the "show BG Image" getting the humanoid to follow along with the exercises was not all that difficult. Working on the humanoid's motions was the most difficult part of the pro-

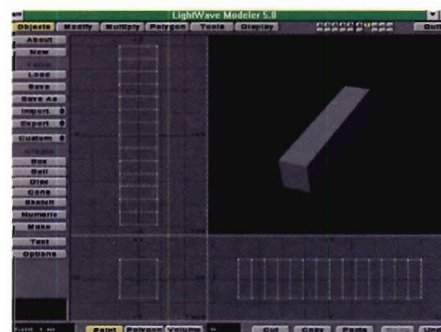


Figure 1

ject. I did this using 3.5, and although the model comes set up with a well functioning archive of parenting, some of the exercises required keyframes on every frame!

Freeform Modeling in A Hurry

So how exactly do you make a dolphin and an octopus in a hurry? It's metaform to the rescue. By using simple shapes and moving their points around, it's not all that difficult. Now with MetaNURBs, modeling is that

much easier! (I Sure could have used 5.0 then.)

Let's go over the modeling of the dolphin. In modeler I created a simple multi-segmented box (Figure 1). By moving points around to shape it into a box-like dolphin body (Figure 2), and applying Metaform with (Shift d Subdivide) on the keyboard, the object is quickly transformed into a smooth shape (Figure 3). With MetaNURBs (5.0 only), hit the (tab) key, and the simple shape turns into a smoothed version surrounded by control points.

When moved, the control points reshape the object while you watch the results in real-time with a fully solid shaded colored version! Yesss! (The upgrade is worth it for this feature alone).

"I created the octopus the same way, the only difference was I needed to total of seven morph targets to animate the octopus, where the dolphin worked nicely with a hierarchy of bones for its movement."

For the dolphin's fins, I used the same principle (Figure 4 and Figure 5). This is a great way to make complex organic shapes. It's all in how you approach making simple shapes. As you start doing this, you'll quickly understand how the tools operate.



Figure 2

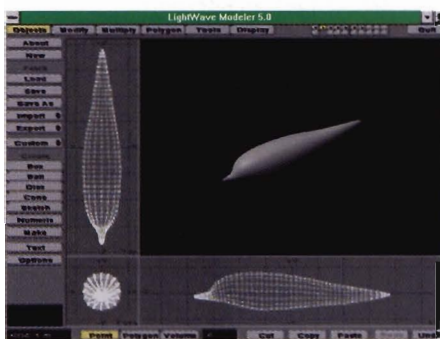


Figure 3

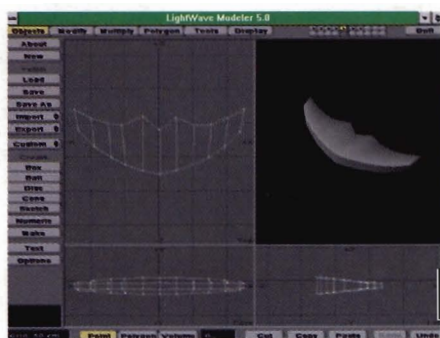


Figure 4

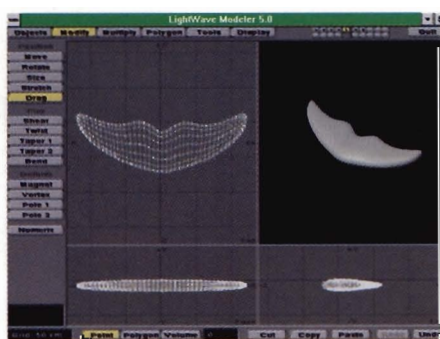
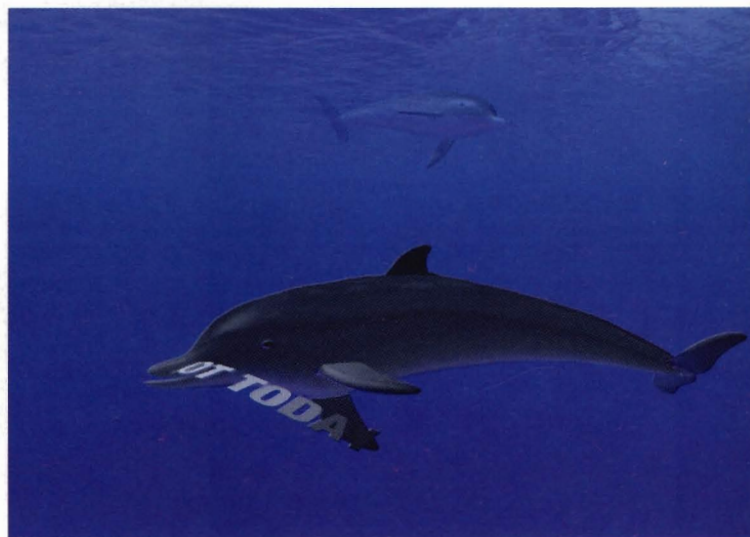


Figure 4

I created the octopus the same way, the only difference was I needed a total of seven morph targets to animate the octopus, where the dolphin worked nicely with a hierarchy of bones for its movement. All those tentacles were just too hard to manipulate with 3.5 bones. If you need to make multiple morph targets for an object created using Metaform or

"Not all projects are quite as involved with so many unusual elements. It's good, however, to know that with all the resources and powerful tools in LightWave 5.0, just about anything is possible."



MetaNURBs, reshape the simple object to the desired position, apply Metaform and save as morph target. Repeat as needed. The point order will remain intact and all objects created will be morphable.

I completed the models in about eight hours. Animating them took more like seven days (not quite), but the client was happy!

Not all projects are quite as involved with so many unusual elements. It's good, however, to know that with all of the resources and powerful tools in LightWave 5.0, just about anything is possible. The total time spent on this project was right at the deadline of four weeks, with 25 scene files, a massive amount of R&D and and the occasional sanity check from my wife at 3 a.m. on any given night.

Chris Seiler owns Burning Visions Productions in Delray Beach, Fla., and is a full-time firefighter for the City of Lake Worth, Fla. His home page is at <http://www.millennium.net/bvisions/>. Reach him by e-mail at bvisions@millennium.net.

| EDITORIAL EVALUATION | | |
|--------------------------------------|----------------------|--------------------------|
| Circle number on Reader Service Card | | |
| I found this article: | | |
| Very Useful Circle 063 | Useful Circle 064 | Not Useful Circle 065 |

Happy Days Again

Take Those Old Records off the Shelf

by Mario Cascio

For those of you that have been working with the Video Toaster Flyer from the very beginning, you may be unaware or reluctant to use some of the more advanced features. Many of the features that were once unavailable in combination with the Flyer in previous versions have become fully functional and quite powerful. You know the little box in the lower right hand corner of the main switcher screen labeled superimpose? All those buttons actually work. In fact, they even work in conjunction with the Flyer while recording in HQ5 mode. The Flyer's luminance keyer utilizes the superimpose bus controls to create layering effects while recording directly to your Flyer drives. In the following tutorial, you will learn how to create the spinning record effect we have all seen in the opening of the classic TV show *Happy Days*.

circumstances, additional lighting may be necessary to brighten the scene.

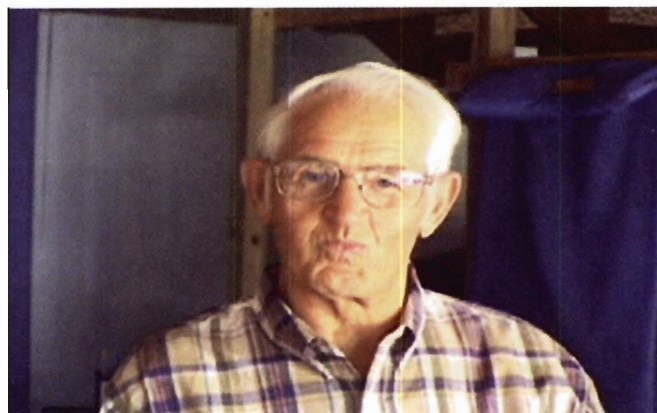


Figure 1

Correctamundo

The local tourism office in my city buses in 35 to 40 people from other states, numerous times a year to participate in what we call the "Reach for the Stars Movie Tour." After reading from a provided script, six of the tourists are selected to play leading roles in a short movie based on the *Happy Days* show. Each scene is quickly set-up and acted out in a reconstructed Al's Diner setting, then recorded onto a Sony VX-1000.

Before leaving the movie tour location, all of the leading roles stood in front of the camera one by one with their faces centered similar to Figure 1. For this tutorial, you can video tape yourself, a photograph, a friend, or even a favorite pet. Freeze and save this image as a Framestore from the main switcher screen and name it Subject. Precautions should be taken to make sure none of your subjects are wearing dark clothing.

it Subject." If your subject or the background is too dark, the luminance keyer will have trouble performing a clean key, resulting in parts of your subject or the background becoming transparent in the dark areas. In certain

Spin That Video

After recording all of the scenes and the leading roles' faces, I went back to the studio to add sound effects, credits, background music, and edit the footage on the Flyer. Thanks to the Flyer, all of this was possible to complete within six hours, so the tourists could watch the finished video on the bus ride home.



Figure 2

If you are a media junky like myself, you probably still have a turntable lying around the house somewhere. Dust it off and place it on the floor with your favorite vinyl spinning. Mount your camera on a tripod above the turntable

**"For this tutorial, you
can video tape yourself,**

a photograph, a friend,

or even a favorite pet.

Freeze and save this

image as a Framestore

from the main switcher

screen and name

it Subject."

and tilt the camera so the lens is perpendicular to the spinning record. Center the record label in your viewfinder until it looks like Figure 2.

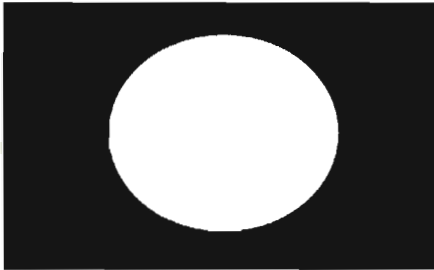


Figure 3

Make sure the record label fills up a large percentage of the screen, but does not extend beyond the imaginary safe areas in your viewfinder. Be sure to record about sixty seconds or more so you do not have to keep rewinding the tape during the editing process.

Play the tape into Toaster input #1 and grab a frame of the spinning record by clicking on #1 from the Framestore Control Panel on the main switcher screen. This should load the frame into DV1. Don't worry about stabilizing the image if it jitters, this will only be used as a template. In ToasterPaint, select Import Frame from the Disk Panel. We need to convert this image into a black and white matte. The record label will eventually be white and everything else surrounding it black. From the Tools Panel, select Solid and Circle. Now choose white from the Color Inkwell and make sure the RGB values are assigned 255, 255, 255 in the Color Panel. With the mouse, click the center of the record label and drag the mouse down until the edge of the circle touches the edge of any part of the record label. Be cautious not to drag beyond the label. Because the Circle tool actually creates more of an oval, you will need to clean-up some of the edges using ToasterPaint's various drawing tools. The more accurate you are, the better looking the key will be. Most monitors are about 15% darker than television sets; therefore, press F10 to render the image to the program monitor to verify there are no stray pixels. When you have completed coloring the image, save it as a framestore called Matte. The final

matte should look similar to Figure 3. Those of you who are well versed in LightWave will find it much easier, quicker and cleaner for creating the matte. Just use the disc tool to trace the record label in Modeler and front projection map the Subject image onto it in Layout. Although this does not require an expert modeler or animator, it does require that you have some experience with LightWave 3D.

In ToasterPaint, verify the static matte we created is still loaded in Screen 1. Next, click Screen 2 from the bottom of ToasterPaint's toolbar to jump to the spare screen. Load the Subject framestore we created and saved earlier. Go back to Screen 1 by clicking #1 from ToasterPaint's

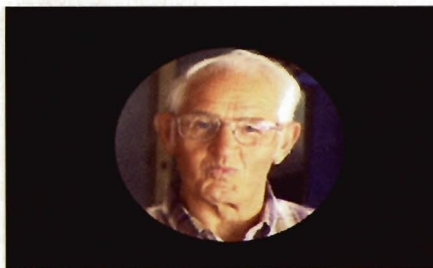


Figure 4

toolbar. If you have done everything correctly so far, you should have the black and white Matte image in Screen 1 and the Subject image in Screen 2. Next, from the Tools Panel, select Rubthru from the Draw Mode pop-up menu. Now, select any drawing tool and Flood Fill. Click any-

"If your subject or the background is too dark and causing keying problems, you may need to brighten those areas of the framestore with ToasterPaint or another image processing program in order to get a better key."

where on the white area where the record label used to be and you should see the subject's face fill in until it looks like Figure 4. You may need to adjust your subject's face left or right in order to center them on the record label. This can be done using ToasterPaint, ADPro, ImageFX or any other image processing program. Press F10 to render the frame to DV1. This matte image will be used to instruct the Flyer's luminance keyer to make the black areas of the matte transparent. In other words, superimpose our subject over the record label. After you save the framestore as SubjectMatte, go to the main switcher screen by exiting ToasterPaint.

Load the framestore SubjectMatte into DV1 if it's not

already there. Cue up the footage of the record spinning and select Toaster input #1 on the Main Bus. Press DV1 in the superimpose box located at the bottom right corner of the switcher. Now press the black box in the row below. This instructs the Flyer to play input #1 in place of the black areas on DV1. Place your mouse arrow in the box with three numbers. These numbers determine the clip level, or the amount of darkness keyed by the keyer. Hold down the left mouse button and move the mouse up or down until the video of the record spinning keys through. A setting somewhere around 30 or 35 should work. If your subject or the background is too dark and causing keying problems, you may need to lighten those areas of the

framestore with ToasterPaint or another image processing program in order to get a better key.

Now hold down the shift and tilde (~) key in the upper left side of your keyboard to bring up the abbreviated Record Panel. The Subject image overlay will disappear. Select the appropriate drive where the Flyer clip should be stored and the quality set-



Figure 5

ting. Change the source to Input 1 if it is not already. Then, slowly drag the T-bar down. As you do this, the record label is replaced with the Subject image composited previously in ToasterPaint. Do not drag the T-Bar all the way down, just about 95 percent of the way down. Dragging it all the way down will cause the switcher to perform a complete fade and switch input #1 from the Main Bus to the Preview Bus. If you drag the T-bar down 50 percent, you can still see

***"Although not everyone
will have a project that
requires placing
someone's face on a
spinning record, this
tutorial was written to
help you generate more
ideas on using mattes and
the superimpose controls
with the Flyer."***

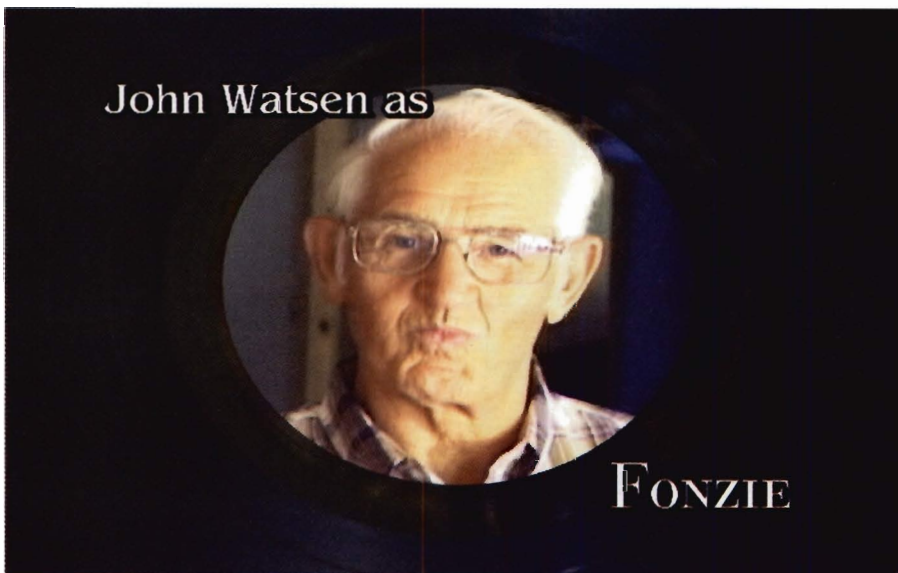


Figure 6

the original record label spinning behind the subjects face. Wow, layering with the Flyer. Who would have thunk?

Press the Record button to begin recording the composited effect to the

Flyer. Notice, the T-Bar is still available and functioning while recording. Select Stop after 10 to 12 seconds of recording time. Select Cut Clip and name the Flyer clip as HdaysCLIP. Adjust the in- and out-points as need-

ed. For this particular clip, it is not necessary to record the audio, so only include video. Press Perform to begin processing the clip. Now, go to Project/Files view and locate the drive where the HdaysCLIP file you just recorded resides. Double-click the icon to see what you have recorded and hopefully give yourself a big pat on the back. If you were successful, the record label should be hidden by the Subject image while the record revolves as seen in Figure 5.

To add the finishing touches to the Happy Days effect, I created a Key page for the HdaysCLIP Flyer clip in ToasterCG. Figure 6 shows the final image with the actor's name and their character role displayed in the upper left and lower right hand corners respectively.

Get Creative

Needless to say, the tourists were overwhelmed by the quality and quick turnaround of the video. The spinning record effect gave the video a truly professional look.

Although not everyone will have a project that requires placing someone's face on a spinning record, this tutorial was written to help you generate more ideas on using mattes and the superimpose controls with the Flyer. Imagine you are producing a commercial spot for Widget World. During the commercial, your client wants to have still images of widgets pop up on the left hand side of the screen in a framed box while full motion video plays behind. In addition, the client wants to have text pop up on the right side of the screen listing all the key features of each widget. If you have read this tutorial, producing this commercial should be no problem. Simulating the letterbox effect is as simple as creating a matte in ToasterPaint by dragging out two rectangles on the top and bottom of the screen. There are numerous other applications where mattes can come in handy. With this in mind, keep experimenting with all the Flyer has to offer—especially the luminance keyer. Remember, you paid for the whole thing, you might as well use it all.



EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Very Useful
Circle 088

Useful
Circle 087

Not Useful
Circle 086

**NEW
EXPANDED
HOURS**

[FORMERLY SELECT SOLUTIONS]

DIGITAL VIDEO DIRECT

YOUR DIRECT SOURCE FOR DIGITAL VIDEO, 3D/ANIMATION AND ADVANCED GRAPHICS!



World Construction Set 2.0

3D terrain modeling from Questar
A 3D modeling and animation program that lets you create stunningly realistic landscapes. Create terrains from Earth, other planets, or worlds entirely from your imagination!

World Construction Set 2.0 (AMG/PC) ... **'399'/'599'**



Movie Models 21 gorgeously detailed 3D aviation models designed for Hollywood quality rendering and animation. Fully textured, including decals, created by leading Hollywood animators. (LightWave 5.0 and 3D Studio formats)

Movie Models (PC/AMG) by High Desert Digital ... **'169'**



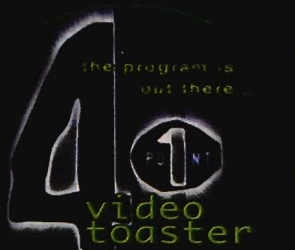
HARDWARE

| | |
|---|----------------------|
| 3D Pro Turbo PC2TV ATI 4MB/8MB PCI | CALL |
| 3D Xpression+PC2TV ATI EDO DRAM 2MB/4MB PCI | CALL |
| 3D Xpression ATI EDO DRAM 2MB PCI | Hot!...159.99 |
| 9FX Reality 332 #9 EDO RAM PCI 2MB | Hot!...179.99 |
| AV Master FAST Electronic | Hot!...899.99 |
| Fire GL Diamond VRAM PCI 4MB | Hot!...899.99 |
| Imagine 128 Series 2e #9 EDO DRAM pci 4MB | Hot!...CALL |
| LightSpeed 128 STB MDRAM PCI 2.25MB | New Product...CALL |
| Millennium Matrix VRAM PCI 2MB/4MB | Hot!...189.99/259.99 |
| microVIDEO DC30 micro | Hot!...949.99 |
| Oxygen 192 Dynamic Pictures SDRAM PC | CALL |
| Personal TBC IV VT2600 DPS | 799.99 |
| Personal VScope VM6000 DRS | 769.99 |
| Pinnacle Turtle Beach w/ digital VO | New Product...474.99 |
| Stealth 3D 3400XL Diamond VRAM PCI 4MB | Hot!...CALL |
| StudioCard Antex | CALL |
| Targa 1009 Truevision PCI w/ Adobe Premiere 4.2 | 2,099.99 |
| Terminator 64/3D MPEG Hercules EDO DRAM PCI 2MB | 294.99 |
| Victory 3D ELISA DRAM PCI 2MB | New Product...CALL |

Video Toaster 4.1

Encounter the greatest Video Toaster upgrade of all time!

There has never been a better time to buy or expand your Toaster Flyer system. Call us for pricing and information on the hottest non-linear editing system in the world. Be prepared for a giant leap forward in video technology. Now!

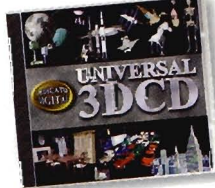


Video Toaster 4.1 Upgrade by NewTek
Video Toaster Flyer by NewTek

'1999'/'499'
'3999'

3D Collections

from Dedicated Digital Imagery



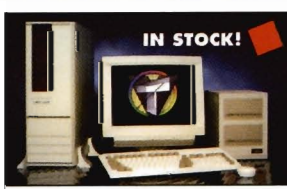
Universal 3DCD 3D meshes & images for computer animation. Buildings, vehicles, anatomy and space fact & fiction.



Plaid Companion 2D sequences for textures & backgrounds in computer animation. Fire, explosions, smoke, lightning and rain.

Digital Museum High resolution 3D objects, containing costumed people, monuments, artifacts, historic places and animals.

Universal 3DCD **'119'**
Plaid Companion **'22'**
Digital Museum **'119'**

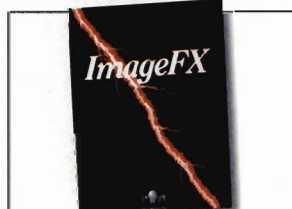


IN STOCK!

A4000 TOWERS ARE HERE!

We have your system! Includes 6MB RAM, 1GB SCSI hard drive, Amiga DOS 3.1, a complete software bundle and more!

Amiga A4000 Tower **'CALL'**
A4060 Accelerator **'CALL'**



Every tool you need to create and manipulate high quality images is right at your finger tips. Preview effects on thumbnails and work with an unlimited number of image buffers!

Image FX 2.6 by Nova Design... **'239'**



Humanoid 2.0

The multi-platform human animation resource. Includes resolution models of a man, woman, child, strongman and walk & run motions.

Humanoid 2.0 for LightWave... **'169'**



PERCEPTION VIDEO RECORDER

True broadcast quality, full screen, full motion video recording.

- Better than D1 scaling
- Crystal Clear S-Video output
- 720x480 resolution
- 10-bit 2X oversampled video encoding
- Both component & composite output

Perception Video Recorder (PC) by DPS... **'1649'**
Personal Animation Recorder (PC/AMG) **'1599'**
Perception Live Video Capture Card **'879'**



SOFTWARE

| | |
|--|----------------------|
| Bryce 2.0 MetaTools | Hot!...\$179.99 |
| Dehler Fractal Design | Hot!...CALL |
| Final Effects AP MetaTools | Hot!...149.99 |
| Hollywood FX Synergy IntelDEC Alpha | 399.99/799.99 |
| Illustrator Composition Denim Software | New Product...CALL |
| MediaPaint 1.0 Strata | CALL |
| Painter 4.0 Fractal Design painting for Windows | Hot!...334.99 |
| Particle Storm Dynamic Realities IntelDEC Alpha | 259.99/329.99 |
| Photoshop 4.0 Adobe | CALL |
| Pictor 2 Fractal Design | CALL |
| Premiere 4.2 Adobe for Windows 95/NT | Hot!...499.99 |
| Relief for LightWave ISE IntelDEC Alpha | 179.99/264.99 |
| SAW Plus Innovative Quality Software | CALL |
| Sound Forge 4.0 Sonic Foundry | Hot!...329.99 |
| Ultimate Ultimate Corporation | CALL |
| Verticentric for LightWave Blevins Enterprises | Hot!...CALL |
| Wave Action-NT 4.0 Star Media Systems | New Product...949.99 |
| WavePrinter 1.1 for LightWave Unlimited Potential IntelDEC Alpha | 139.99 |
| WaveNet Pro for LightWave ATR Solutions | 299.99 |
| Xres 3.0 Macromedia | CALL |

SVNCE 1982 DV DIRECT

P.O. Box 6512 Champaign, Illinois 61826-6512



EXPLOSION OF NEW PRODUCTS!

Dozens of new products are shipping on a regular basis. Call our sales representatives any time for the latest!



SAME DAY SHIPPING!

Orders on in-stock items placed before 6PM CT (Monday-Friday) are processed and shipped out that same day.



INTERNATIONAL ORDERS WELCOME!

We speak many languages...Spanish, German, Dutch, Bahasa Indonesia, and others.



800-322-1261

Customer Service: Mon. - Fri. 9am-5pm CT
Sales: Mon. - Fri. 8am-10pm & Sat. 8am-7pm

Customer Service: 217-355-2785
24 Hour Order Fax: 217-356-4312

Internet Orders: solutions@dvdirect.com
International Sales: 217-355-2785

OUR POLICY: VISA, MasterCard and Discover accepted. No surcharge on credit card orders. Credit card is not charged until order ships. \$5.00 COD fee, cash only. Prices are subject to change without notice. Call for current pricing. We are not responsible for typographical errors. 15% restocking fee for items returned and not exchanged for same. Customer is responsible for return shipping. Returns accepted for 10 days after invoice date. SHIPPING: 0-5 lbs. \$5.00, 6-20 lbs. add \$1.00/lb. over 5 lbs. over 20 lbs. add \$0.50/lb. over 20 lbs. Rates apply to orders shipped in the continental US only. Canadian orders add \$5.00. For your protection we check credit cards thoroughly. (VTU9612)

If specialized titles
weren't so effective,
we wouldn't be
the world's fastest growing
high-tech publisher.



But we are.

It's funny how things can sneak up on you. Like Miller Freeman's strong growth in high-tech magazines.

As the high-tech world has become increasingly specialized, Miller Freeman has quietly assembled an outstanding selection of titles to fit this reality. Since September 1992, we have added *Cadence*, *Dr. Dobb's Journal*, *OS/2 Developer*, *DBMS* and *Microsoft Systems Journal*. *Software Development*, *OS/2 Magazine*, *Stacks: the Network Journal* and *Game Developer* were launched in that same time frame.

We work hard to identify important markets and then deliver magazines with tight editorial focus and highly targeted audiences. This gives you access to in-depth articles and product reviews--coverage you won't find in broader magazines.

Our specialized expertise has grown to include international marketing and trade shows. Miller Freeman is one of North America's largest producers of high-tech events featuring SD East & West, OS/2 World, Autodesk University and the Computer Security Conference.

So next time you're looking for targeted high-tech information, look for a specialized magazine from Miller Freeman.

un Miller Freeman
A United News & Media company



*** LIFETIME WARRANTY ON ALL CPU & MEMORY CHIPS ***
SAME DAY SHIPPING! OVERNIGHT DELIVERY ONLY 9.95!**
CALL FOR LOWEST PRICING 1 800 699 4049 NO TAX IN DE!



DIGITAL

PROCESSING SYSTEMS INC.

| | |
|-------------------------|------|
| Perception Video Rec. | 1590 |
| Perception capture opt | 849 |
| RS 422 Option | 185 |
| Bundle w/ext cable | 2369 |
| Perception audio A4V | 1229 |
| Perception FX Acc. | 829 |
| Time base corrector IV | 795 |
| Time base corrector III | 665 |
| Vscope AMIGA | 795 |
| Animation recorderAMI | 1699 |
| Animation recorder PC | 1545 |

EXABYTE

8700 LT External 995



1024k / second - two year warranty
 7GB uncompressed
 14GB compressed

Lightwave Software

| | |
|-----------------------|--------|
| 18 Perfect People LE | 129 |
| 18 Perfect People | 349 |
| 3D Objects | 15.50 |
| Lightwave 5.0 Upgrade | 399 |
| Light-Rom 4 | 29.95 |
| Light-Rom Gold | 29.95 |
| Moving Textures 200 | 249.00 |
| Particle Storm | 259 |
| Sparks | 119 |
| Universal 3DC | 119 |

Lightwave 5.0 Intel/Dec
 \$ 995.00

Adobe Premiere 4.2

\$ 499.00

Soundforge

\$ 299.00

FREE OVERNIGHT SHIPPING

CPU&FPU UPGRADES AND REPLACEMENTS

| | | |
|-----------------------------|----------|-----|
| 68040RC40 W/MMU & FPU | (#03404) | 199 |
| 68040RC33 W/MMU & FPU | (#03405) | 149 |
| 68040RC25 W/MMU & FPU | (#03406) | 99 |
| 68030RC50 W/MMU | (#03408) | 119 |
| 68030RC40 W/MMU | (#03409) | 79 |
| 68030RC33 W/MMU | (#03411) | 69 |
| 68030RC25 W/MMU | (#03412) | 59 |
| 68882RC50 MATH CO-PROCESSOR | (#03414) | 75 |
| 68882RC40 MATH CO-PROCESSOR | (#03415) | 69 |
| 68882RC33 MATH CO-PROCESSOR | (#03416) | 49 |
| 68882RC25 MATH CO-PROCESSOR | (#03440) | 29 |
| 68882RC25 MATH CO-PROCESSOR | (#03417) | 20 |
| INTEL PENTIUM PRO 200 | | 599 |
| INTEL PENTIUM 200 | | 499 |
| INTEL PENTIUM 166 | | 399 |
| INTEL PENTIUM 150 | | 299 |

Extensive stock of Motorola, Intel, & Cyrix processors available, so if what you are looking for isn't listed, call us!

MEMORY/RAM CHIPS

SIMMS

| | | |
|------------------------|----------|-----|
| 64MB 72PIN 16x32 60ns | (#03442) | 499 |
| 32 MB 72 PIN 8x32 60ns | (#03403) | 175 |
| 16 MB 72 PIN 4x32 60ns | (#03402) | 90 |
| 08 MB 72 PIN 2x32 60ns | (#03401) | 40 |
| 04 MB 72 PIN 1x32 60ns | (#03400) | 20 |

We are proud to announce that we offer a **LIFETIME WARRANTY** on all chips we sell.

DIMM, SIMM, ZIP, DIP, 8 PIN to 168 PIN
 Call with your needs!

PC Software

| | |
|-------------------------|------|
| 3D Rom Volume 1 or 2 | 29 |
| 3000 Jpeg Textures | 29 |
| Add Depth 1.1 | 49 |
| Animator Studio | 269 |
| Air/Sea/Land Vehicles | 169 |
| Canvas 5 | 284 |
| Clip Model Library | 109 |
| Corel DRAW! 6 | 429 |
| Corel DRAW! 6upgrade | 229 |
| CorelXARA | 197 |
| Dem-Rom | 47 |
| Detailer | 285 |
| Director 5.0 | 849 |
| Director Multi. Studio | 999 |
| Expression | call |
| Extream 3D | 329 |
| Fiber Factory | 99 |
| Freehand 5.0 | 404 |
| Freehand Gphx Studio | 434 |
| Garden Hose | 64 |
| Graphic Design Studio | 659 |
| Hijack's Graphics Suite | 127 |
| Kai's Power GOO | 47 |
| Truespace SE | 95 |
| Wavefilter Net Plus | 399 |
| Wavenet Pro | 269 |
| World Construc. Set 2 | 549 |

Removable Media

| | |
|---------------------------------|-----|
| IOmega Jazz Internal | 399 |
| IOmega Jazz External | 499 |
| IOmega Zip Internal (#14906) | 199 |
| IOmega Zip External (#14905) | 199 |
| Syquest 44MB Internal | 99 |
| Syquest 88MB Internal | 259 |
| Syquest 105MB Internal | 189 |
| Syquest 135MB External | 199 |
| Syquest 270MB Internal (#07777) | 329 |
| 44MB Syquest Cart. (#15200) | 39 |
| 88MB Syquest Cart. (#15201) | 49 |
| 270 3.5" Syquest Cart. (#15202) | 54 |
| Jazz Cartridge | 129 |
| Zip Cartridge (#15210) | 19 |

CDROM DRIVES

| | |
|---|--------|
| NEC CDR-222 QUAD (#14113) | 95.00 |
| (4X) Speed Internal | |
| 600k/second - 120ms | |
| seek time - 256k buffer | |
| scsi I & II - Caddyless | |
| NEC CDR-222 QUAD | 154.00 |
| (4X) Speed Internal | |
| also includes case with power supply, fan & DB25-CENT50 cable | |
| PLEXTOR 8X Internal | 299.00 |
| 1200k/second - 120ms | |
| seek time-1024k buffer | |
| scsi I & II - Caddyless | |
| PLEXTOR 8X External | 358.00 |
| also includes case with power supply, fan & DB25-CENT50 cable | |

YAMAHA CDR-100

4x READER & 4X WRITER

**TIME IS MONEY!
DO MORE IN LESS TIME!**

INTERNAL
 (#14201) \$ 699.00
 EXTERNAL
 (#14203) \$ 758.00

EPSON

FLATBED SCANNERS

| | |
|----------------------|-----|
| Action Scanner 2 | 499 |
| 1200 DPI 24bit color | |
| ES1000 Scanner 2 | 699 |
| 1600 DPI 24bit color | |

<http://www.devineinc.com>
devine@devineinc.com

HARD DRIVES

Quantum

| | |
|--------------------------|------|
| 9.1 GB Atlas II Ultra | 1799 |
| perception / flyer drive | |
| 7200 rpm - 8ms - 5 yrs | |
| 4.6 GB Atlas II Ultra | 999 |
| perception / flyer drive | |
| 7200 rpm - 8ms - 5 yrs | |
| 4.3 GB Atlas | 899 |
| great newtek flyer drive | |
| 7200 rpm - 10.5ms-3yrs | |
| 3.8 GB Fireball (IDE) | 399 |
| 4500 rpm-10.5ms-3yrs | |
| 3.2 GB Tempest | 339 |
| 4500 rpm-10.5ms-3yrs | |
| 2.5 GB Sirraco (IDE) | 299 |
| great with dps par | |
| 2.1 GB Tempest | 379 |
| 4500 rpm - 10ms - 5yrs | |
| 2.1 GB Atlas | 499 |
| great newtek flyer drive | |
| 7200 rpm - 8ms - 5 yrs | |
| 1.1 GB Atlas | 299 |
| great newtek flyer drive | |
| 7200 rpm - 8ms - 5 yrs | |

Seagate

| | |
|-------------------------|------|
| 9.1 Barracuda 19171N | 1999 |
| great par / flyer drive | |
| 7200 rpm - 8ms - 5 yrs | |
| 99.10%+ HQ5 !!! | |
| 9.1 GB Elite 410800N | 1595 |
| great par / flyer drive | |
| 5400rpm - 11ms - 5 yrs | |
| 90% HQ5 !!! | |
| 4.3 Barracuda 34371N | 1099 |
| great par / flyer drive | |
| 7200 rpm - 8ms - 5 yrs | |
| 2.1 Barracuda 32171N | 799 |
| great par / flyer drive | |
| 7200 rpm - 8ms - 5 yrs | |
| 52140A 2.1GB (IDE) | 299 |
| 51270A 1.2GB (IDE) | 225 |
| 540MB 3660A (IDE) | 169 |
| 420MB 3491A (IDE) | 149 |

MICROPOLIS

| | |
|-------------------------|------|
| 9.1 Tomahawk 3391 | 1995 |
| great par / flyer drive | |
| 7200 rpm-7.9ms - 5 yrs | |
| 99.10% HQ5 - 3.5" | |
| 9.1 GB 1991 Scorpio | 1495 |
| great par / flyer drive | |
| 5400 rpm-12ms - 5 yrs | |
| 80.10%+ HQ5 - 5.25" | |
| 4.3 GB 3243 Capricorn | 899 |
| great par / flyer drive | |
| 7200rpm-8.9ms - 5 yrs | |
| 512k cache - 3.5" | |
| 3.6 GB 1936 | 699 |
| 5400rpm - 12ms - 5 yrs | |
| 512k cache - 5.25" | |
| 2.1 GB 4221 Taurus 2 | 499 |
| great par / flyer drive | |
| 7200 rpm - 8ms - 5 yrs | |

De Vine

COMPUTER
SALES

302 738 9259 24 HOUR FAX
 302 738 9046 ORDERLINE
 302 738 9267 INFOLINE

25 SOUTH OLD BALTIMORE PIKE
 LAFAYETTE BUILDING I SUITE 202
 NEWARK DE 19702

ORDERLINE 1 800 699 4049

AMEX, DISCOVER, MASTER CARD, VISA, DINERS CLUB AND COD ALL ACCEPTED. MAIL PREPAYMENTS TO THE ADDRESS ON LEFT. PRICES AND SPECIFICATION ARE SUBJECT TO CHANGE WITHOUT NOTICE. DEFECTIVE ITEMS REPLACED WITH SAME ITEM. ALL SALES ARE FINAL AFTER TEN DAYS. RETURNS ARE SUBJECT TO 15% RESTOCKING FEE. PLEASE CALL 302 738 9267 FOR RMA# BEFORE RETURNING MERCHANDISE. RETURNS WITHOUT RMA# WILL BE REFUSED. SHIPPING IS NOT REFUNDABLE. WE ARE NOT RESPONSIBLE FOR INCOMPATIBILITY OF PRODUCTS. CDS ARE CASH ONLY COD FEE IS \$6.00. ** \$9.95 IS FOR AIRBORNE EXPRESS SELECT DELIVERY SERVICE UP TO FIVE POUNDS IN ACTUAL AND/OR DIMENSIONAL WEIGHT.

De Vine

COMPUTER SALES

302 738 9259 24 HOUR FAX
302 738 9046 ORDERLINE
302 738 9267 INFOLINE

25 SOUTH OLD BALTIMORE PIKE
LAFAYETTE BUILDING I SUITE 202
NEWARK DE 19702

Same Day Shipping!
<http://www.devineinc.com>
EMAIL:devine@devineinc.com
ORDERLINE 1 800 699 4049

Amiga A/V Hardware

| | |
|----------------------------------|-------|
| A520 Video Adapter (#02214) | \$ 19 |
| Clarity 16 | 179 |
| Cybervision 64 3D | Call |
| Little Magic Box (Y/C) (#02216) | 649 |
| Megalosound | 49 |
| Midi Interface, Pyramid (#02700) | 39 |
| Personal Vectorscope (#02221) | 725 |
| Personal Animation Rec (#02212) | 1699 |
| Picasso II Plus (#02213) | 349 |
| Retina Z2 | 509 |
| Retina Z3 | 549 |
| Supergen SX (#02206) | 689 |
| Supergen SX Studio (#02218) | 739 |
| Sync Strainer (#03202) | 49 |
| Video Flyer v4.1+ (#02202) | 3895 |
| Video Toaster v4.1+ (#02201) | 1995 |
| Vidi 24 RT | 269 |
| Vidi 24 RT Pro | 379 |
| Vlab Motion | 1499 |
| Vlab Motion/Z2/Tocatta | 2499 |
| Vlab Motion/Z3/Tocatta | 2749 |
| Vlab Y/C External | Call |
| Vlab Y/C Internal | Call |
| YCP-GA Y/C Adapter | 95 |
| Y/C Plus | 899 |

Amiga Software

| | |
|------------------------|-----|
| 3D Rom Volume 1 or 2 | 69 |
| AWeb II | 45 |
| Audio Thunder | 69 |
| Address it 1.5 | 26 |
| Blitz Basic 2.1 | 65 |
| Cinema 4D | 239 |
| Control Tower | 169 |
| Co Pilot Audio | 90 |
| Co Pilot Video | 90 |
| Cross Mac | 69 |
| Cross DOS 6.0 Pro | 39 |
| Cybergraphix | 49 |
| Dem-Rom | 29 |
| Deluxe Paint 5 | 119 |
| Diavolo B-Up Standard | 69 |
| Diavolo Backup Pro | 98 |
| Digital Universe | 124 |
| Directory Opus 5.5 | 89 |
| Easy Ledgers II | 145 |
| En Print 2.1 | 29 |
| Diskmagic | 55 |
| Gamesmith | 68 |
| Gigamem 3.12 | 59 |
| GP FAX Generic | 47 |
| Hi Soft Basic 2 | 95 |
| Hollywood F/X | 225 |
| Image F/X 2.6+ | 215 |
| Imagemaster R/T | 75 |
| Impact! 1.05 | 195 |
| Interchange Plus | 95 |
| Kara Collection | 79 |
| Lightwave 5.0 | 995 |
| Lightwave 5.0 Upgrade | 299 |
| Lock & Key | 189 |
| Macroform 2.0 | 229 |
| Multimedia Backdrops | 34 |
| On the ball | 34 |
| Pagestream 3.0+ | 225 |
| Pro Vector 3 | 179 |
| Pro Wipes 2.0 Vol 1or2 | 59 |
| Radar 4000 | 299 |

| | |
|-------------------------|-----|
| SAS/C Development | 149 |
| Sequencer One+ | 35 |
| Termite TCP/IBrowse | 89 |
| Turbo Calc 3.5 | 59 |
| Twist 2 Database | 119 |
| Typesmith 2.5 | 48 |
| Upper Disk Tools | 26 |
| WordWorth 5.0 | 119 |
| World Construc. Set 2.0 | 389 |
| World Atlas CD | 44 |
| Zip/Jazz Tools | 24 |

SCALA

Award winning multimedia presentation tools software

| | |
|--------------------|-------|
| MM300 (#55002) | 139 |
| MM400 (#55000) | 199 |
| MM400 Upgrade | 69 |
| must own MM300 | |
| Art Library Vol I | 19.95 |
| Art Library Vol II | 19.95 |

MacroSystem WARP ENGINE

- Up to 800% speed increase Amiga 3000 & 4000/030&400% for 68040 25mhz owners
- Available for A4000 Tower / A4000 Desktop / A3000 Tower / A3000 Desktop (specify)
- 128MB ram expansion for A4000 & A3000T - 64MB ram expansion A4000T & A3000
- SCSI I & II FAST HARD DRIVE CONTROLLER INCLUDED - Up to 10 MB/Second transfer rate

68040 @ 40MHZ BOARD(#02079) 595

Low heat, power & profile simms for maximum performance - 4 MB 60NS 20.00
REMEMBER! We have our LIFETIME WARRANTY on CPU, FPU 8 MB 60NS 40.00
and RAM (MEMORY) chips! 16 MB 60NS 90.00
32 MB 60NS 175.00

Warp Engine upgrade kits - 40mhz (#03600) 175.00
33mhz (#03605) 125.00

Amiga Systems

Amiga 4000T SYSTEM (#01109) 1995
68040 @ 25MHZ - 1.2GB HD - 6MB RAM
SCSI II HD Controller Card - Software bundle

Amiga 1200 SYSTEM (#01107) CALL
68020 @ 16MHZ - HDs Available-2MB RAM

We have older A4000/3000/2000 CALL
reconditioned systems now
available. (Limited quantities)

NEW VIDEO TOASTER & FLYER SYSTEMS

Amiga 4000T System - Motherboard with two video slots, five zorro III slots, 3.5" floppy disk drive, mouse, keyboard, two megabytes of ram, 1000+ megabytes of hard disk space, software bundle (#01111)
Foundation of your toaster/flyer.
Requires a processor option to operate.

Processor Options - A4640/A3640 68040 @ 25mhz w/CPU, FPU & MMU (#02085) \$ 200.00
(up to 400% faster) MS Warp Engine 68040 @ 40mhz w/CPU, FPU & MMU (#02079) \$ 595.00
(up to 800% faster) A4660 68060 @ 50mhz w/CPU, FPU & MMU (#02089) \$ 795.00

Memory Options - (Minimum of ten megabytes of ram required, more recommended)

REMEMBER! We have a lifetime warranty on all memory purchased from De Vine Computer Sales I
4MB 1x32 60ns simm (#03400) \$ 20.00
8MB 2x32 60ns simm (#03401) \$ 45.00
16 & 32 MB SIMMS are for use with MS Warp Engine & A4660
Processor Options, they will not work on the A4000T Motherboard!
16MB 4x32 60ns simm (#03402) \$ 90.00
32MB 8x32 60ns simm (#03403) \$ 175.00

Video Toaster 4.1+ - (Hardware + Lightwave, Switcher, Character Generator, Paint Prg,) (#02201) \$1995.00

Video Flyer 4.1+ - (Video Toaster REQUIRED!) (#02202) \$3895.00

9.1 GB HD Video Tested / Formatted & HQ5 Configured (#14527) \$1495.00
Stores Approximately 40 Minutes Of HQ5 Footage (Lower quality modes store even more!)

4.6 GB HD Video Tested / Formatted & HQ5 Configured (#14544) \$ 995.00
Stores Approximately 20 Minutes Of HQ5 Footage (Lower quality modes store even more!)

2.1 GB HD Video Tested / Formatted & HQ5 Configured (#14504) \$ 495.00
Stores aroximately 10 Minutes Of HQ5 Footage (Lower quality modes store even more!)

Octopus Cable - (#03205) \$ 125.00
Required to connect flyer to external cabinet for improved cooling

Midtower Chassis / External Cabinet - (#03304) \$ 495.00
Houses up to NINE devices, five 3.5" bays, four 5.25" bays, 250 watt power supply, three internal scsi daisy chain cables, 7.7" wide x 18.1" tall, 16.6" long

NEC 4x CDROM DRIVE & ASIM CDFS 3.6+ - (#14113) \$ 95.00
Required to install toaster / flyer software (#53001) \$ 49.00



25 SOUTH OLD BALTIMORE PIKE
LAFAYETTE BUILDING I SUITE 202
NEWARK DE 19702
(302) 738-9046 ORDERS ONLY
(302) 738-9267 INFORMATION & RMA
(302) 738-9259 FAX

800 699 4049

**OVERNIGHT
DELIVERY
ONLY 9.95!***

*up to five pounds actual weight & dimensional weight, call for other details. Shipped Airborne Express SDS.

DKB

Megachip 2000/500 185.95
Allows your A500 & A2000 series computers to have two megabytes of chip ram. A must have for people who use video, graphics and audio applications. Included is the Megachip daughterboard with 2MB Agnus chip and an extra one megabyte of ram. (Requires A500 to have A501 ram expander +24.95)

A1202 board (A1200 Only) 87.95
A multi-function board for the A1200 Computer that provides the maximum fast ram expansion plus a battery backed up clock-calendar. Includes two simm sockets for combinations of 1, 2, 4, 5, or 8MB of fast ram using industry standard 32 bit simms with 72 pins. Optional pch math co processor can speed up math functions as much as 1000% or more.

A3128 Ram board (A3000/4000 Only) 189
Allows 32 bit ram expansion to 146 megabytes of ram using 72pin industry standard simms. Four simm slots accept either 4, 8, 16, or 32 megabyte simms.

A2632 Ram board (A2630) 189 w/4mb
Allows 32 Bit ram expansion on board of 112mb of ram using industry standard 72pin simms. Has four sockets allowing use of 4, 8, 16, or 32 mb simms. Allows full burst mode support.

**DKB's WILDFIRE 060
w/FAST SCSI II & 64bit
ramboard \$1199**

Upgrade rebates available for owners of other accelerator boards & ram through De Vine.

| | |
|------------|------------|
| 4MB - 25 | 8MB - 50 |
| 16MB - 100 | 32MB - 200 |

- True 68060 50Mhz Design - NOT A MODIFIED 68040 BOARD !!!
- Lightning High Speed Local 68060 Memory, supports interleaved memory
- Supports Posted Writes to Motherboard & 10MB/SECOND SCSI TRANSFERS
- 32 Bit FAST SCSI II Host bus DMA Interface
- Over 90% of the CPU available at full Speed SCSI DMA
- Totally Autoconfigurable - 64 BIT Ram expandable to 128MB
- Uses Industry Standard 72 Pin Simms - Ethernet - Twisted Pair & Thin Coax
- PCI Bus For Future Expansion supporting up to 100MB/Second
- Compatible with the Newtek Video Toaster & DKB Megachip
- Includes Manufactures TWO year full warranty

From a company that listens to what the public wants! This is the FASTEST accelerator available for the Amiga 2000!! MADE IN THE USA!

DKB

Kwikstart II (A1000) 54.95
Control up to seven SCSI I & II devices internal and / or external at the same time! DB 25 connector included for easy external connections. Low cost solution for many users with an A2000/3000/4000

Multistart II 6a (A500, 600, 2000) 29.95

You can use more than one kickstart rom chip with this device! Switchable by resetting the machine for a few seconds.

Cobra 33MHZ w/MMU & FPU 149.00
Accelerator for A1200 computer with 68030 @ 33Mhz, 68882 @ 33Mhz math co-processor, and battery backed real time clock. Expandable to 128MB of fast ram using industry standard 72 pin simms. Increase in speed up to 600% SCSI I&II controller can be added \$89.00

Rapidfire SCSI I & II controller 139.00
Specifications are unsurpassed in speed, power compatibility & raw performance. Ram expansion up to eight megabytes of 72pin industry standard ram. Hard drive can attach to card, & includes db25 external connector

**EXPANSION
SYSTEMS**

HIGHFLYER (A4000 Only)
INCLUDES Power Supply 375
Fan Kit 39
Cable Kit 99

Dataflyer SCSI card 4000SX 84.00
- SCSI Controller card supports up to seven devices internally, can add external port later

Dataflyer SCSI card 4000SX-25 89.00
- SCSI controller card with DB25 external connector for external devices

Dataflyer SCSI+ A4000 99.00
- converts IDE header into SCSI support for up to five devices with pass thru to work with original IDE drives you already own

Dataflyer SCSI+ A1200 99.00
- converts IDE header into SCSI port with original IDE still functional! Control up to seven devices total.

Dataflyer 1200/600 XDS 69.00
- external case supports 3.5" IDE hard drive & allows use of internal 2.5" hard drive. Includes pass thru cable for using two hard drives at once.

Dataflyer RAMBOARD w/0MB 89.00
- ramboard expandable to eight megabytes of ram using 1x8 or 1x9 simm modules

Dataflyer SCSI controller (2000/3000) 89.00
SCSI Controller card, controls up to seven devices at once. Optional DB25 connector available for 9.95.

Dataflyer IDE controller (2000/3000) 79.00
IDE controller card, controls up to two IDE devices at once.

Dataflyer SCSI & IDE controller (2000) 95.00
IDE controller card, controls up to two IDE devices at once. SCSI controller part controls up to seven SCSI devices at one time on the same card.

Dataflyer SCSI A500 149.00
External enclosure, allows internal mounting of 3.5" SCSI device. Ramboard can be added to expand memory to eight mega. DB25 external connector purchased separately for 9.95. Up to seven devices can be controlled.

Dataflyer IDE A500 149.00
External enclosure, allows internal mounting of 3.5" IDE device. Two devices can be controlled. Dataflyer RAM-C Ramboard can be added to expand memory to eight MB.

Dataflyer SCSI & IDE A500 179.00
External enclosure, allows internal mounting of 3.5" SCSI or IDE device. Ramboard can be added to expand memory to eight mega. DB25 external connector purchased separately for 9.95. Up to nine devices can be controlled mixing & matching SCSI & IDE.

Baseboard A601C 25.00
Ramboard with one megabyte of ram for an additional megabyte of chip memory for the Amiga 600 computer system. Included also is a battery backed real time clock.

Expansion Systems is an American owned & operated company. Their products carry a one year manufacture warranty.

HIGHFLYER
Expansion case with power supply option, fan kit option, flyer cabling kit option.
Allows a user to add an extra Amiga slot to their A4000 desktop system by moving the Newtek Video Toaster board.
Gives the user the power to add additional cards like DPS Vector Scopes in extra PC slots

CSA DERRINGER+

800% INCREASE IN SPEED! ONLY 249.00

68030 @ 50MHZ with Memory management unit 68882 @ 50MHZ FPU (Math Co Processor add 75.00) 1MB of 60NS 32bit ram (32bit os by remapping kickstart) Up to 32MEGABYTES of 72 pin industry standard ram WHATS THE PLUS? It's the modification to work with the DKB Megachip 2000/500 (a \$25.00 value if purchased separately)

4MB - 275 8MB - 299 16MB - 349 32MB - 449

FREE MATH CO PROCESSOR with purchase of 33mhz version

2000/500 ACCELERATOR

A1200 CSA Accelerators

68030RC33 Mhz w/MMU, 68882 RC33 math co-processor, AND SCSI I & II controller card built in w/ external port expandable to 32mb of ram 399.00

68030 running at 50 Mhz w/MMU AND SCSI I & II controller card built in with external port expandable to 32 mb ram 599.00

CSA is an American owned & operated company. Their products carry a one year manufacture warranty.

GVP-M 68060 @ 50Mhz

- Includes SCSI I & II Fastest hard drive controller available for the Amiga 2000 series
- Up to FIVE megabytes per second with a Seagate Barracuda 2.1 gigabyte hard drive
- Expandable to 128MB ram using 72 pin industry standard simms
- Capable of using original GVP 64 pin simms also!

A2000 68060 @ 50Mhz w/CPU & MMU & FPU 895
A4000 68060 @ 50Mhz w/CPU & FPU & MMU 995

Low profile, power & heat simms for maximum performance -

| | |
|------------|--------|
| 04 MB 60NS | 25.00 |
| 08 MB 60NS | 50.00 |
| 16 MB 60NS | 99.00 |
| 32 MB 60NS | 199.00 |
| 64 MB 60NS | 398.00 |

Upgrade rebates for A2000 owners with other CPU cards!
Trade in that old 16bit ram while your at it too!

GVP-M FALCON 68040 @ 25MHZ

- for the Amiga 1200 series machines
- faster than an Amiga 4000T @ 25Mhz
- uses standard 72pin simms expandable to 128 MB of memory
- 3B MHZ & 40MHZ AVAILABLE! \$649.00 & 749.00!!
- Extra SCSI Port Option Available

Limited time price of \$495.00

GVP-M TREX-2 68060 @ 50MHZ

- FOUR SIMM SOCKETS MAKE IT EXPANDABLE TO 128 MB
- BUILT IN SCSI II CONTROLLER CARD
- 4000 / 4000T / 3000 / 3000T / 2000 VERSIONS AVAILABLE

A2000 \$999 Others \$995

**DE VINE'S
800 699 4049
ORDERLINE**

ICD PERIPHERALS

FLICKER FREE VIDEO I (REFURBISHED UNITS) 129
FLICKER FREE VIDEO II 239
ADIDE II CONTROLLER CARD 69
KICKBACK ROM SWITCHER 25
ADRAM 540 w/4MB 99
ADRAM 2080 w/8MB 149
ADSPEED 99
ADSPEED/IDE COMBO 179
TRIFECTA 500 LX SCSI & IDE & RAM 199
NOVIA MOUNTING KIT 25
PRIMA MOUNTING KIT 35

SUPERGEN SX

External genlock for 699.00
Amiga series computers

SUPERGEN SX STUDIO

External genlock for 799.00
Amiga series computers
with Brilliance 2.0 &
Broadcast Titler II

VILLAGETRONIC

MainActor Professional 79
MainActor Broadcast 269
- Full featured animation program that works with all Amigas with support for Picasso II owners.
AMITCP/IP 94
Ariadne 269
- Zorro II Ethernet card offering 10base-2 (cheaper) & 10base-T (twisted pair) Features; 2 parallel ports 32k buffer; boot eeprom option; SANA-2 Compatible drivers & Envoy network software; DOS 2.04 or higher required.

Liana Network 89
- Connects any two Amigas together via the parallel port

Pablo 179
- A video module for your Picasso II card permitting output to your TV or VCR - Quality comparable to high performance video broadcast encoders; includes RCA - S-VHS - SCART cables & 24 bit animation program

PICASSO II+ w/ 2 MB RAM 369
- High resolution graphics board

PICASSO II+ -> 1084/1080 Monitor Cable 35
- Allows connection of CBM 1084, 1080 or 2002 monitor to Picasso II+ board

Micro R&D

Directory Opus 79
2000 Bigfoot Power Supply 159
1200/600/500 Bigfoot 79
Slingshot A500 (1A2000Slot) 39
Slingshot Pro A500 69
X-Calibur A4000 Ram Unit 849
GP FAX CLASS 1 & 2 54
Gigamem v3.12 59
WIZ MOUSE 560 dpi 39

CONSULTRON

Cross Mac - 69.00
read & write files from mac floppies and hard drives directly from your favorite Amiga program

Cross DOS 6.0 Pro - 39.00
The classic PC - Amiga utility has just been improved with faster floppy access, hd writes and creation of MS-DOS partitions.

ICD

AdIDE 540MB HD System 225
w/2.5" Drive (500/2000)
AdIDE 760MB HD System 275
w/2.5" Drive (500/2000)
Flicker Free Video II (PAL/NTSC) 239
ADRAM540 w/4MB (A500) 275
ADRAM 2080 - w/2mb exp to 99
eight megs of ram

USRobotics Modems

External Sportster 33.6kbps v.34 data, \$165
14.4kbps class 1 & 2 fax v.42/v.42bis
quicklink II s/w (software is for IBM)

Termite TCP / IBROWSE BUNDLE 89
GP FAX Class 1 & 2 (Amiga) 59

REMOVABLE MEDIA RICH 50 MB
SCSI DEVICE CLOSE OUT removable HD \$99.00



800 699 4049

25 South Old Baltimore Pike
Lafayette Bldg. Suite 202
Newark, DE. 19702
(302) 738-9046 ORDERS ONLY
(302) 738-9267 Information & RMA
(302) 738-9259 Fax 24 HOURS

CBM AMIGA 1200 SYSTEMS

Keyboard, mouse, power supply, 2mb ram,
AGA graphic chipset, and built in IDE HD
controller w/260MB HD & Surfer 699.00
810MB HD INSTALLED 375.00

4MB 32 BIT RAMBOARD 199.00
with battery backed clock & FPU
8MB 32 BIT RAMBOARD 299.00
with battery backed clock & FPU

APOLLO 68030 @ 50Mhz \$ 249
APOLLO 68040 @ 25Mhz \$ 399
APOLLO 68060 @ 50Mhz \$ 699
SCSI I&II Fast HDC Option \$ 125

- Amiga 1200 only, run faster than an Amiga 4000TI
- uses standard 72pin simms expandable to 64 MB Ram

NEW NEW NEW NEW NEW NEW NEW NEW NEW

GVP-M TREX-2 68060 @ 50MHZ

- FOUR SIMM SOCKETS MAKE IT EXPANDABLE TO 128 MB
- BUILT IN SCSI II CONTROLLER CARD
- 4000 / 4000T / 3000 / 3000T / 2000 VERSIONS AVAILABLE

Awesome Pricing Of \$995

GVP-M I / O EXTENDER

- TWO SERIAL PORTS
- ONE PARALLEL PORT

Reintroduced @ \$119

ICD PERIPHERALS

FLICKER FREE VIDEO I (REFURBISHED UNITS) 129
FLICKER FREE VIDEO II 239
ADIDE II CONTROLLER CARD 69
KICKBACK ROM SWITCHER 25
ADRAM 540 w/4MB 99
ADRAM 2080 w/8MB 149
ADSPEED 99
ADSPEED/IDE COMBO 179
TRIFECTA 500 LX SCSI & IDE & RAM 199
NOVIA MOUNTING KIT 25
PRIMA MOUNTING KIT 35

AMIGA RAM BOARDS

| | |
|---|---------------------|
| Paravision MBX1200Z w/20Mhz&1MB | 149 |
| Paravision MBX1200Z w/20Mhz&2MB | 175 |
| Paravision MBX1200Z w/20Mhz&4MB | 199 |
| Paravision MBX1200Z w/20Mhz&8MB | 299 |
| Paravision 8-Up! w/0MB | (2000) 99 |
| Paravision 8-Up! w/2MB | (2000) 149 |
| Paravision 8-Up! w/4MB | (2000) 229 |
| Paravision 8-Up! w/6MB | (2000) 309 |
| Paravision 8-Up! w/8MB | (2000) 389 |
| DKB 2632 w/4MB | (Requires 2630) 199 |
| DKB 1202 FPU & 8MB Ram | (1200) 159 |
| DKB 3128 w/4MB | (3000/4000) 199 |
| Exp. Sys. Dataflyer Int. w/2MB Exp to 8MB | (500) 199 |
| Supra External w/2MB (500) | (500) 199 |
| CBM 2052 w/2MB | (2000) 99 |
| CBM 2058 w/2MB Exp to 8MB | (2000) 175 |
| CBM 501c Clone w/512K | (500) 25 |
| Exp. Systems 60 to w/1MB | (600) 89 |

Legendary Design Technologies Inc

| | |
|--------------------|-------|
| AmiPC Mouse | 49.00 |
| Business Package | 50.00 |
| CD Sampler | 32.00 |
| Datamix CD | 19.00 |
| Family Connections | 29.00 |
| Link It! | 41.00 |
| Maximum Mods CD | 26.00 |
| Sound Ideas CD | 39.00 |

IBM HARDWARE

MiroVIDEO DC 20 \$589

Non-linear desktop video editing
studio for the serious videographer

- Excellent Capture Quality
- Simple Plug & Play Installation
- Print To Hi-8 - S-VHS - VHS - Video 8
- BONUS - Get Adobe Premiere LE & Photoshop LE and Asymetrix 3D F/X

FAST - AV MASTER 875

FAST's AV Master is the first affordable
PCI capture/output card to combine CD
quality audio and Motion-JPEG video
compression on the same board.

- Combined Video & Audio digitizing with complete AV lock on on PCI bus master card
- BONUS - Ulead's MediaStudio 2.5 ve & Crystal Graphics Flying Fonts LE

TRUEVISION -
BRAVADO 1000 599

- Full screen, full motion video capture
- 60 FPS @ 640 x 480
- PCI bus - 32bit DMA for power & performance
- Motion JPEG compression
- Windows 95 & Windows 3.1 support
- Intel Plug & Play Easy Installation
- BONUS - Adobe Premiere 4.2 Included

TARGA 1000 1799

TARGA 2000 2895

UPGRADE TO A DVCS P166 SYSTEM

THREE YEAR WARRANTY

MOTHERBOARD FEATURES:

- TRITON II CHIPSET P75-P200 SUPPORT
- FOUR PCI SLOTS **THREE ARE FULL SLOT**
- 256K Cache exp to 512K (w/512kCALL)
- THREE EISA SLOTS
- FOUR SIMM SOCKETS (Uses x32 simms)
- Pipeline Burst Support
- EDO Memory Support
- 2 Serial / 1 Par. / 4 IDE HD Support
- Master Support for PCI slots

Desktop case or Minitor Case w/200W PS,
Keyboard, mouse, 3.5" FDD, 2.5 GB HD, P166
64 MB EDO RAM, 4x CDROM DRIVE

\$1395

Complete custom configurations
also available with three year
warranty. Call for quotations!

SALES OFFICES

**Reach Buyers of
Video Toaster and
LightWave 3D
Products by
Contacting:**

Miller Freeman, Inc.
411 Borel Ave., Ste. 100
San Mateo, CA 94402
Phone: 415-358-9500
Fax: 415-358-8891

Eric C. Schwartz
Eastern Regional Sales Manager
The Eric Charles Group
34 W. 17th Street
New York, NY 10011
Phone: 212-929-2116
Fax: 212-929-8760

Annette Schnur
Western Regional Sales Manager
The Eric Charles Group
34 W. 17th Street
New York, NY 10011
Phone: 212-929-2116
Fax: 212-929-8760

Dina Borrigan
Marketplace / Dealer / Classified
The Eric Charles Group
34 W. 17th Street
New York, NY 10011
Phone: 810-854-0553
Fax: 810-854-0553

ADVERTISER INDEX

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

| RS# | Advertiser | Page | RS# | Advertiser | Page |
|-----|-------------------------------|-------|-----|------------------------------|---------------------|
| — | ACS Computers | 84 | — | Lightstorm | 85 |
| — | Archer Productions | 84 | — | Lively Computer | 84 |
| 129 | B & H Photo-Video | 71-75 | — | Markertek Video Supply | 85 |
| 199 | Blevins Enterprises | 53 | 101 | Megagem Digital Media | 53 |
| 107 | Carrera Computers | 5 | 193 | Micro 2000 | 76-77 |
| 188 | Desktop Images | 1 | — | MicroSearch | 82 |
| 121 | Devine Computer Sales | 64-67 | — | MicroTech Solutions | 83 |
| 187 | Digital Video Direct | 61 | — | The Music Bakery | 85 |
| 108 | Dimension Technologies | 30-31 | 138 | NewTek Inc. | 7, 15, 21, Cover IV |
| — | Edit Bay Music | 83 | 144 | Nova Design | Cover III |
| — | Electronic Connection | 85 | 198 | Safe Harbor Computers | 80-81 |
| — | Global Computer & Video | 83 | 102 | Wonder Computers | 2 |
| — | Graphic Impressions | 85 | — | T.S. Computer | 83 |

This index is provided as an additional service by the publisher, which assumes no liability for errors or omissions.

FREE INFO!

**Brochures ■ Announcements ■ Discounts
Product Reviews ■ Special Offers**

Postage is Paid and the Service is FREE!

VIDEO TOASTER USER™

OFFER VALID THROUGH FEBRUARY 28, 1997

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

PHONE (_____) _____ COUNTRY _____

A. Which of the following products do you plan to purchase in the next 12 months?

- 701 ☐ 3D Animation 705 ☐ Audio Sound
702 ☐ Mass Storage 706 ☐ Video Cameras
703 ☐ Computer Systems/
Accelerations 707 ☐ Stock Footage/
Music Libraries
704 ☐ Monitors 708 ☐ Video Accessories/Supplies

B. Which trade show do you plan to attend?

- 01 ☐ NAB '96 03 ☐ Video Toaster User Expo '96
02 ☐ ACM SIGGRAPH '96 04 ☐ COMDEX Fall '96

C. How many other readers see part or all of this issue?

- 05 ☐ One 06 ☐ Three 07 ☐ Four 08 ☐ Seven or more

D. Your comments on this issue:

MAIL THIS POSTAGE-PAID CARD

to receive information about products and services in this issue of VIDEO TOASTER USER.
Please circle numbers corresponding to items listed in the advertising index and editorial features.

| | | | | | | | | | | | | | |
|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 16 | 31 | 46 | 61 | 76 | 91 | 106 | 121 | 136 | 151 | 166 | 181 | 196 |
| 2 | 17 | 32 | 47 | 62 | 77 | 92 | 107 | 122 | 137 | 152 | 167 | 182 | 197 |
| 3 | 18 | 33 | 48 | 63 | 78 | 93 | 108 | 123 | 138 | 153 | 168 | 183 | 198 |
| 4 | 19 | 34 | 49 | 64 | 79 | 94 | 109 | 124 | 139 | 154 | 169 | 184 | 199 |
| 5 | 20 | 35 | 50 | 65 | 80 | 95 | 110 | 125 | 140 | 155 | 170 | 185 | 200 |
| 6 | 21 | 36 | 51 | 66 | 81 | 96 | 111 | 126 | 141 | 156 | 171 | 186 | 201 |
| 7 | 22 | 37 | 52 | 67 | 82 | 97 | 112 | 127 | 142 | 157 | 172 | 187 | 202 |
| 8 | 23 | 38 | 53 | 68 | 83 | 98 | 113 | 128 | 143 | 158 | 173 | 188 | 203 |
| 9 | 24 | 39 | 54 | 69 | 84 | 99 | 114 | 129 | 144 | 159 | 174 | 189 | 204 |
| 10 | 25 | 40 | 55 | 70 | 85 | 100 | 115 | 130 | 145 | 160 | 175 | 190 | 205 |
| 11 | 26 | 41 | 56 | 71 | 86 | 101 | 116 | 131 | 146 | 161 | 176 | 191 | 206 |
| 12 | 27 | 42 | 57 | 72 | 87 | 102 | 117 | 132 | 147 | 162 | 177 | 192 | 207 |
| 13 | 28 | 43 | 58 | 73 | 88 | 103 | 118 | 133 | 148 | 163 | 178 | 193 | 208 |
| 14 | 29 | 44 | 59 | 74 | 89 | 104 | 119 | 134 | 149 | 164 | 179 | 194 | 209 |
| 15 | 30 | 45 | 60 | 75 | 90 | 105 | 120 | 135 | 150 | 165 | 180 | 195 | 210 |

- ☐ Send me the next 12 issues of VIDEO TOASTER USER and bill me \$36 U.S.; \$48 Canada/Mexico; \$76 Overseas. Canada/Mexico/Overseas orders must be paid in U.S. funds only.

9612

VIDEO TOASTER USER™

OFFER VALID THROUGH FEBRUARY 28, 1997

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

PHONE (_____) _____ COUNTRY _____

A. Which of the following products do you plan to purchase in the next 12 months?

- 701 ☐ 3D Animation 705 ☐ Audio Sound
702 ☐ Mass Storage 706 ☐ Video Cameras
703 ☐ Computer Systems/
Accelerations 707 ☐ Stock Footage/
Music Libraries
704 ☐ Monitors 708 ☐ Video Accessories/Supplies

B. Which trade show do you plan to attend?

- 01 ☐ NAB '96 03 ☐ Video Toaster User Expo '96
02 ☐ ACM SIGGRAPH '96 04 ☐ COMDEX Fall '96

C. How many other readers see part or all of this issue?

- 05 ☐ One 06 ☐ Three 07 ☐ Four 08 ☐ Seven or more

D. Your comments on this issue:

MAIL THIS POSTAGE-PAID CARD

to receive information about products and services in this issue of VIDEO TOASTER USER.
Please circle numbers corresponding to items listed in the advertising index and editorial features.

| | | | | | | | | | | | | | |
|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 16 | 31 | 46 | 61 | 76 | 91 | 106 | 121 | 136 | 151 | 166 | 181 | 196 |
| 2 | 17 | 32 | 47 | 62 | 77 | 92 | 107 | 122 | 137 | 152 | 167 | 182 | 197 |
| 3 | 18 | 33 | 48 | 63 | 78 | 93 | 108 | 123 | 138 | 153 | 168 | 183 | 198 |
| 4 | 19 | 34 | 49 | 64 | 79 | 94 | 109 | 124 | 139 | 154 | 169 | 184 | 199 |
| 5 | 20 | 35 | 50 | 65 | 80 | 95 | 110 | 125 | 140 | 155 | 170 | 185 | 200 |
| 6 | 21 | 36 | 51 | 66 | 81 | 96 | 111 | 126 | 141 | 156 | 171 | 186 | 201 |
| 7 | 22 | 37 | 52 | 67 | 82 | 97 | 112 | 127 | 142 | 157 | 172 | 187 | 202 |
| 8 | 23 | 38 | 53 | 68 | 83 | 98 | 113 | 128 | 143 | 158 | 173 | 188 | 203 |
| 9 | 24 | 39 | 54 | 69 | 84 | 99 | 114 | 129 | 144 | 159 | 174 | 189 | 204 |
| 10 | 25 | 40 | 55 | 70 | 85 | 100 | 115 | 130 | 145 | 160 | 175 | 190 | 205 |
| 11 | 26 | 41 | 56 | 71 | 86 | 101 | 116 | 131 | 146 | 161 | 176 | 191 | 206 |
| 12 | 27 | 42 | 57 | 72 | 87 | 102 | 117 | 132 | 147 | 162 | 177 | 192 | 207 |
| 13 | 28 | 43 | 58 | 73 | 88 | 103 | 118 | 133 | 148 | 163 | 178 | 193 | 208 |
| 14 | 29 | 44 | 59 | 74 | 89 | 104 | 119 | 134 | 149 | 164 | 179 | 194 | 209 |
| 15 | 30 | 45 | 60 | 75 | 90 | 105 | 120 | 135 | 150 | 165 | 180 | 195 | 210 |

- ☐ Send me the next 12 issues of VIDEO TOASTER USER and bill me \$36 U.S.; \$48 Canada/Mexico; \$76 Overseas. Canada/Mexico/Overseas orders must be paid in U.S. funds only.

9612

FREE INFO!

**Brochures ■ Announcements ■ Discounts
Product Reviews ■ Special Offers**

Postage is Paid and the Service is FREE!



BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO 428 PITTSFIELD MA

POSTAGE WILL BE PAID BY ADDRESSEE

VIDEO TOASTER USER™

PO BOX 5039
PITTSFIELD MA 01203-9107

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES



BUSINESS REPLY MAIL

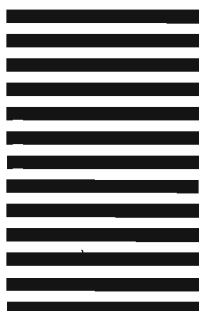
FIRST-CLASS MAIL PERMIT NO 428 PITTSFIELD MA

POSTAGE WILL BE PAID BY ADDRESSEE

VIDEO TOASTER USER™

PO BOX 5039
PITTSFIELD MA 01203-9107

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES





"THE PROFESSIONAL'S SOURCE"

FOR ORDERS CALL:

800-947-9938

212-444-5038

OR FAX (24 HOURS):

800-947-9003

212-444-5001

ALL ORDERS SHIPPED
WITHIN 24 HOURS

OVERNIGHT SERVICE AVAILABLE

On the Web: <http://www.bhphotovideo.com>



announces...

QuickDial



Now, you can instantly reach a professional sales associate in our Order Department to assist you with your specific needs. This new feature will speed you through the information and ordering process, making your communications with B&H a more pleasurable experience. Simply look over the chart below to see the QuickDial codes for each department. Call B&H, then dial the corresponding department code at any time during our welcome message, to instantly connect you to the department you need.

QuickDial Options for • VIDEO • PRO-AUDIO MENU

| QuickDial | QuickDial |
|---|-----------|
| Industrial/Broadcast Equipment | 72 |
| Pro Video Equipment & Accessories | 74 |
| Non-Linear Editing & Computer-based Video | 731 |
| 3D Animation | 732 |
| Pro Audio Equipment | 8 |
| Used Video Equipment | 75 |



Panasonic Broadcast & Television Systems



AG-456

2-Hour S-VHS Camcorder

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



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 high quality - it literally rivals broadcast cameras. Utilizing DVC the AG-EZ1 records an extraordinary 500 lines of horizontal resolution—nearly 25 percent more than S-VHS, Hi8 or laserdisc, and 50 percent better than a five television broadcast. And because it's digital, picture quality is not only sharper but unbelievably clean. Audio is also recorded digitally, resulting in quality equal to that of CDs. In addition to its digital capabilities, the 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.



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

- Three high-density 380,000 pixel CCDs with half-pitch pixel offset achieves over 750 lines of horizontal resolution, a SN ratio of 60dB and remarkable sensitivity of 18 at 2000 lux. Additionally the Frame Interline Transfer (FIT) CCDs minimize vertical smear, so you maintain impressive picture quality even in very bright illumination.
- Digital Signal Processing circuitry provides four valuable benefits:
 - 1) Consistently reliable up-to-spec performance.
 - 2) Fine adjustment of a wide range of parameters.
 - 3) Memory storage and instant recall of specific settings.
 - 4) More flexible and higher quality image processing, as well as easier maintenance.
- Some of the DSP circuits and their functions:
 - CHROMA DETAIL - This function compensates for poor resolution in the high chroma areas of the picture.
 - DARK DETAIL - Determines optimum degree of contour enhancement in dark areas to deliver crisp, natural-looking images
 - HIGHLIGHT COMPRESSION - Expands the dynamic range of the highlighted areas and prevents halation. The highlight compression circuit allows a wide dynamic range producing detailed images even against bright backlight or daylight.
 - FLARE CORRECTION CIRCUIT - Compensates for 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.
- Synchron Scan function allows flicker-free shooting of computer monitors. Electronic shutter increments can be set variably from 1/61 seconds to 1/253 of a second.
- Built-in internal time code generator lets you record with SMPTE LTC/VITC (Longitudinal/Vertical Interval) time code
- Two hi-fi stereo audio channels with a dynamic range of 80 dB, as well as two linear audio channels with Dolby NR. Normal/Hi-Fi recording is selectable. Uses XLR connectors to further ensure high-quality sound.
- Has a 26-pin connector on the back that outputs a composite or component video signal. This enables convenient backup recordings using an additional VCR equipped with a 26 or 14-pin connector
- Phantom power can be supplied to an optional microphone. Power can be switched off to prevent battery drain when not in use.

Purchase a Panasonic
AG-DP800H SUPERCAM
and receive a \$1000 Rebate
directly from Panasonic.
thru 3-31-97



JVC

GR-DV1 CyberCam World's Smallest Digital Camcorder

Weighing in at 1.1 pound with battery and tape, the 570,000 pixel GR-DV1 is the smallest and lightest camcorder in the world. Technological advances along with miniaturized high quality optics have made this possible without sacrificing any quality or features. Add digital video and audio recording and you have one of the most versatile recording tools ever developed.

DIGITAL VIDEO

The GR-DV1 combines a 570,000 pixel CCD with 4:1:1 digital component recording to deliver razor sharp pictures with 500 lines of resolution. Digital image stabilizer eliminates camera shake without affecting resolution.

DIGITAL AUDIO

CD quality audio is now available. Digital audio recording delivers 2 channels at 48kHz (16-bit) sampling for highest quality or four channels at 32kHz (12-bit) when dubbing or mixing is required.

DIGITAL EFFECTS

A multitude of special effects are possible with the GR-DV1 including wipes, fades, and dissolves. In addition, some specialized effects such as Classic Film, Monotone, Sepia and Strobe, can be recorded in the camcorder or can be played through docking station—even if they weren't originally recorded.

SNAPSHOT/QUICKPIX/ANIMATION

- Snapshot mode captures still images with a white border around it and even adds a shutter sound effect. In Motor Drive mode multiple snapshots get recorded in rapid succession with an interval of 0.7 seconds between pictures. A Snapshot Search feature lets you put together a video album using captured photos
- QuickPix or 5-second-record mode automatically records five second clips of video and audio when start button is pressed.
- Animation mode records scenes for just 1/8th of a second each time the start button is pressed. When inanimate objects are recorded with slight changes in position between shots, an animation effect is rendered to the objects making them come alive.

DIGITAL ZOOM

10X variable speed optical zoom with built-in macro delivers razor sharp images from a distance—or as close as 1.5 cm. A 20X digital zoom and 100X Super Digital zoom allow image capture from tremendous distances while retaining a good degree of sharpness.

USER FRIENDLY MENU SYSTEM

Zoom rocker control is used to make the different selections as they appear in the color viewfinder so you can pick settings from the menu without taking your eye away off the viewfinder. This design also keeps controls and switches to a minimum.

DOCKING STATION

Multi-function docking station offers even more sophisticated playback capabilities, plus advanced editing functions:

- R.A. (Random Assemble) editing enables programmed rearrangement of up to 8 scenes at a time—just by marking the beginning and end of scenes.
- Insert editing and 4-channel stereo audio dubbing are possible using the docking station. Video insert allows new video to be inserted over pre-recorded segments without disturbing the audio segment. When inserting audio, 16 bit (48kHz) full audio insert replaces recorded audio without disturbing the existing video track. In the 12 bit (32kHz) mode, 2 additional audio tracks can be added to the existing audio and mixed.
- In addition to the five special effects available through the docking station, there are 17 scene transitions that can be selected.



Purchase a JVC DV-1 CyberCam
and receive from JVC a \$200 Rebate
plus FREE Accessories worth \$300
Total Value \$500. thru 12-31-96



JVC PROFESSIONAL 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

- 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 Deck system.
- Large high resolution 1.5-inch viewfinder displays comprehensive status indicators.

GY-X2B 3-CCD S-VHS Camcorder

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

Quick-Draw Professional FOR CAMCORDERS OR STAND ALONE CAMERAS

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



SEVEN DAY CUSTOMER SATISFACTION GUARANTEE

FOR INFORMATION CIRCLE 129



"THE PROFESSIONAL'S SOURCE"

FOR ORDERS CALL:

800-947-9938
212-444-5038

OR FAX (24 HOURS):

800-947-9003
212-444-5001

ALL ORDERS SHIPPED
WITHIN 24 HOURS
OVERNIGHT SERVICE AVAILABLE

On the Web: <http://www.bhphotovideo.com>



SONY

SVO-2000 S-VHS Hi-Fi Editing VCR

The SVO-2000 is a powerful, yet easy-to-use S-VHS Hi-Fi editing recorder. Two SVO-2000's combined with the optional RM-250 Edit Controller form a cost-efficient cut-only editing system—with assembly, video insert, audio dub and program editing.

Superb Video and Audio Performance

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



Editing Features:

- The SVO-2000 has a Control-Edit 5-pin remote terminal that allows it to be controlled externally. Connects directly to the optional RM-250 for easy setup.
- Control-S input and output terminals allow two SVO-2000s to be connected for synchro editing—without the RM-250.
- RM-250 also offers program editing capability, which allows automatic sequential editing of up to 20 pre-assigned scenes.



SVO-2100 S-VHS Editing Recorder

The SVO-2100 is an S-VHS VCR with excellent video and audio quality. It has convenient functions such as, auto repeat, power on playback/recording, Control-S input/output and mic input. In addition, the SVO-2100 works as an editing VTR with LTC (Longitudinal Time Code) when you use it with the optional SVBK-10 RS-232C interface board and FXE-100 or 120 integrated editing workstation.

- S-VHS format provides high picture quality with a horizontal resolution of 400 TV lines, and an excellent signal-to-noise ratio of more than 45 dB.
- The SVO-2100 has two channels of Hi-Fi and linear audio.
- In the auto repeat mode, the SVO-2100 repeatedly plays back from tape top to either program-end or tape-end.
- In the one-time playback mode, the SVO-2100 plays back to the end of the program, then automatically rewinds the tape to the beginning, and waits for the next press of the play button.
- In the power on recording/playback mode, the SVO-2100 automatically turns on, and recording or playback starts when power is supplied. The external timer can control the VTR's playback and recording.
- It is possible to insert an audio signal onto a pre-recorded tape.
- Built-in head cleaner automatically passes over the video heads whenever a tape is loaded or ejected, removing tape residue. This prevents head clogging and deterioration of picture quality.



- Digital auto tracking automatically adjusts tracking for tapes recorded on other machines.
- The SVO-2100 has a VIDEO Through connector. It is possible to record simultaneously on several SVO-2100VTRs by using this connection.
- When the optional SVBK-10, RS-232C interface board is installed, the SVO-2100 can communicate with external equipment like a PC or the FXE-100, FXE-120 editing workstation. The SVBK-10 has a LTC (Longitudinal Time Code) reader and generator.
- Control-S input/output allows the SVRM-100A or RM-V200, wired remote controller to be used with the SVO-2100. Basic functions such as, Playback, REG, FF, REW, Stop and Pause are available.
- The SVO-2100 can be controlled with a foot switch for recording/start and stop function. In addition, the output signal for a tally lamp is on the same terminal when the record function is activated.

FXE-120

ALL-IN-ONE VIDEO EDITING SYSTEM

The FXE-120 is at once an edit controller and a special effects generator which cuts, mixes, wipes and composites video sources with stunning effects; and an audio mixer with various fading and switching abilities.

- Controls three RS-422 or three RS-232C equipped VCRs plus Control-L machines. Variable speed control for VCRs with Dynamic Tracking. Accepts time code, control track (CTL), and 8mm time code as reference.
- Performs assemble and insert editing. Split audio edit function sets audio and video in-points separately, letting you bring in the audio before a visual transition.
- Stores up to 99 scenes, including effect settings in memory. Edit list data can be saved and downloaded to a PC.
- Freeze function makes two machine editing with effect transitions possible ("Self A Roll").
- **SWITCHER AND SPECIAL EFFECTS GENERATOR**
- Multiple wipe patterns include picture scroll and slides. Add soft edges or color borders (15) to most wipes and effects.
- Mix effects such as mosaic, black and white, posterization mix and picture-in-picture (PIP). Digital effects, such as mosaic, paint, pixel trail, multi-pictorial, monochrome, and zoom.
- Wipes or dissolve of sources with digital effects can be executed. Combine multiple effects to create stunning images.
- Transition time can be set from 0 to 999 frames.



WIPE CONTROL

By moving the location stick, you can move the closed wipe patterns such as square, circle and heart, around the screen. This function also enables you to start the wipe transition from any desired position on the screen.

AUDIO MIXING

Performs audio-follow-video editing. Two channels are assigned to each player VCR's input and one channel for the recorder VCR's input. Two channels of AUX inputs and a MIC input are available for mixing background music with voice-over. All input levels can be adjusted separately. Two program output channels and one monitor channel are also provided. Switch for -7.50dB and +4.0 dB lets you choose input levels for VCRs with either RCA or XLR connectors.

DIGITAL SOUND PROCESSING

- Two kinds of quasi surround sound enhances sound effects.
- Splits mono audio to L/R channels creating quasi stereo sound.
- Digital sound processing (DSP) also offers keytone change by digitally changing sound frequencies of the audio input.

VERSATILE SYSTEM INTEGRATION

- Two GPI outputs and a GPI input, allowing it to be controlled from an external edit controller.
- Four black burst outputs to synchronize connected devices.
- Permits one monitor operation. Data like edit mode and time code of each VCR, can be monitored on the same screen.

DFS-300 DME Switcher

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

POWERFUL MULTIPLE EFFECTS

Effects Modification

- Allows modification for some of the preset effects like mosaic, posterization, solarization. Fine control over parameters such as size, density and amplitude further enhances effects editing.

Transitions

- 111 frequently used wipes are available from the preset patterns and 13 are directly accessed with a press of the keypad.
- Mixes, wipes and digital effects can be performed manually or automatically. Transitions can be set from 0 to 999 frames for foreground and background bus and DSK transitions.

Optional Down Stream Keyer (DSK)

- BKDF-504 DSK lets you introduce captions, characters, etc., after mix/effects processing. Position and type of the DSK are selectable. Box mask for unwanted areas of the picture.

Built-in Matte Generator

- Three matte generators for backgrounds—solid color or one of 31 differently textured patterns, border and effect matte signals. Also instantly selectable color bars, grid pattern and solid black.

Other Features

- Three black-burst outputs for equipment requiring sync signals. Genlock input synchronizes to an external timing source.

Up to 500 Effects

- 330 preset 2D effects and wipes like compression, rotation, slide, split, mirror, stream as standard. With optional BKDF-301 3D board installed, another 130 preset effects such as twist, page turn, sphere can be memorized and recalled.

Powerful User Program

- Powerful, yet easy effects programming for building your own effects. Create cuts, mixes, wipes, slides, rotation and other effects and store them (up to 20) for instant recall.

Multi-Format Inputs/Outputs

- Three inputs (two program outputs) accept composite, S-video and component signals. A fourth accepts component, R/G/B/Sync or computer generated RGB signal. Color correct any input.

Luminance Keyer

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

Chroma Keyer

- Superimpose video from a foreground source onto a background source. Control clip and hue for clear, sharp key edges.



Panasonic



AG-1310 Industrial 4-Head VHS VCR

- HR (High-Response) mechanism uses the full-loading tape transport system for quicker picture display.
- S-VHS quasi playback (SQPB) lets you playback S-VHS tapes (in normal VHS resolution).
- 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.
- AI CVC (Crystal View Control) system optimizes video head and tape performance for the best quality playback. Also adjusts recording head current to maximum head output level.
- On-screen display (in four languages) provides easy to follow programming instructions.
- An industrial strength VCR, it includes a full one-year warranty on parts and labor.
- Other features include: built-in head cleaner, end-of-video auto repeat, real-time counter, frame advance, high-speed search (27x in SLP mode), 181-channel tuner, one touch recording.

AG-2550 4-Head VHS Hi-Fi VCR

Same exact features as the AG-1310 plus—

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



AG-710/720/750

Compact DC-powered Industrial VHS/ S-VHS VCRs

A new line of VCRs from Panasonic, the DC-powered AG Series are compact and lightweight (under 5 pounds) machines that are ready for use anywhere. They are virtually shock and heat resistant and incorporate a highly reliable industrial mechanism that is ideally suited for horizontal and vertical operation—making them ideal for use in cars, boats, helicopters, surveillance applications, and other places with limited space. They also have self-illuminated buttons to ensure easy, positive operation even in the dark. There is also an optional AC adapter available when required.

AG-710 Player

- Top loading
- 4-head equivalent with 2 heads
- Playback in SLP/SLP
- S-VHS/VHS playback compatible
- Equipped with BNC connectors
- Auto repeat/auto rewind

AG-720

Player/Recorder

- Same as AG-710 PLUS—
- Record in 2/6 hour with T-120 cassette
- Switchable Hi-Fi stereo/normal record
- External microphone input

AG-750

S-VHS Player/Recorder

- Same as AG-720 PLUS—
- Records in S-VHS



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

- Built-in RS-232C provides machine control of playback, recording and editing functions from a PC. Use the power of your computer (with optional software) to assemble hundreds of scenes, create edit decision lists and do complex editing jobs.
- Uses amorphous video heads which are clearly superior to conventional ferrite heads—magnetizing strength is much greater, yielding a higher S/N ratio.
- Incredibly accurate, with optional AG-5700 Edit Controller it achieves an accuracy of 3 frames.
- Auto Repeat function continuously replays a tape which can be used for tape's end or when recorded material ends.
- Separate Hi-Fi (Ch. 1/Ch. 2) audio recording level controls with display. There is also a headphone output with volume control.



- Ideal for video presentations. The AG-5700 weighs less than 13 lbs, extremely compact with a built-in carrying handle.
- Sensor Recording function for unattended recording. When a video signal is detected the power is automatically switched on and the AG-5700 begins recording.
- User friendly design features record, play, and stop switches that are well illuminated during operation.

AG-1980 S-VHS Hi-Fi Editing

Incorporates advanced digital signal processing and digital noise reduction circuitry to deliver such high picture quality—that it's third-generation picture looks almost as good as first-generation offerings from other VCRs in its class. In addition, the AG-1980 also features a full field digital TBC, insert and assemble editing, Hi-Fi stereo, quick response mechanism and a remote editing terminal.

- Still the only VCR in it's class to provide near frame accurate editing. When used with edit controllers from Videoics, FAST and FutureVideo, the AG-1980 achieves an accuracy of ± 2 frames. A 5-pin edit terminal on the rear panel makes it very easy to set up an editing system.
- Performs all assemble and video insert edits as well as audio dubbing. Also has independent linear audio input and output for more flexible audio dubbing.
- Hi-Fi stereo audio with a frequency response of 20Hz to 20kHz and a dynamic range of 90dB. It also has Hi-Fi recording level control, headphone monitor terminal with volume control and a mic input terminal.
- Advanced dual-loading mechanism features a quick response time, requiring only 0.5 seconds for a picture to appear from Stop mode and 1.9 seconds from FF/REW.



Digital Processing:

- Digital Comb Filter using advanced 3-dimensional system provides complete Y/C (luminance/chrominance) separation. This practically eliminates color and luminance blurring.
- Field coefficient Digital Noise Reduction (DNR) circuitry processes the Y and C signals separately, thereby boosting the signal-to-noise ratio and reducing noise during playback.
- Has a built-in full field TBC (Time Base Corrector) that eliminates even the smallest of jitter, skew, head impact error and color blurring. Invaluable for editing. The TBC helps maintain high picture quality even through the third-generation.
- Besides it's digital circuitry, the AG-1980 also features laminated video heads. Clearly superior to heads of conventional ferrite they provide richer, more vibrant color reproduction and a higher signal-to-noise ratio.

AG-DS540/AG-DS550 S-VHS Source Player/ S-VHS Edit Recorder

- Digital Signal Processing for improved picture quality, and for maintaining uniform picture quality during editing. Digital processing circuits include:
 - Chroma Aperture Compensation (CAC). Eliminates color blurring and expands chroma bandwidth.
 - Digital Noise Reduction (DNR): Processes Y/C signals separately to boost S/N Ratio by minimizing noise during playback
 - Digital Comb Filter: Advanced 3-dimensional system for total Y/C separation providing reduced color and luminance blurring
- Employs amorphous video heads that have a higher magnetic coercivity than conventional ferrite heads. Expanded frequency response from the amorphous heads enhances picture quality by minimizing color blurring.
- Built-in LTC/VTC (Longitudinal/Vertical Interval) time code reader/generators for absolute frame accurate editing.
- Two hi-fi stereo channels with a dynamic range of 90dB as well as 2 linear channels with Dolby NR. Each audio channel has its own input (AG-DS550 only) and output with individual channel-level setting capability and XLR connectors.
- Performs audio split editing which lets you set the edit-in and edit-out points separately from those for video.



- 3-dimensional digital TBC provides excellent dropout compensation.
- IO 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).
- 3 rack units high, they are compact for easy space saving installation. 19" rack-mountable with optional AG-M730.

"Step Up To SuperDeck \$1000 Rebate" Exp. 3/31/97
Purchase one AG-DS540 and one AG-DS550 or two AG-DS550's and receive a \$1000 rebate directly from Panasonic! It's that simple.

MOST ORDERS SHIPPED WITHIN 24 HOURS

FOR INFORMATION CIRCLE 129

... FOR PHOTO & VIDEO"



TO INQUIRE ABOUT YOUR ORDER:

800 221-5743 • 212 807-7479

119 WEST 17TH STREET, NEW YORK, N.Y. 10011

Store & Mail Order Hours:

Sun 10-4:45 • Mon & Tues 9-6 • Wed & Thurs 9-7:15 • Fri 9-1 • Sat Closed

OR FAX 24 HOURS: 212 366-3738

BUSINESS LEASING AVAILABLE

JVC S-VHS EDIT-DESK SYSTEM

BR-S500U Player • BR-S800U Edit Recorder
RM-G800U Edit Controller



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

OPEN ARCHITECTURE

Two plug-in extension slots on the rear panels (for both VCRs) accept a variety of optional expansion boards. To build a PC-based editing system, add the SA-K271UA RS-232C interface board. To use with more sophisticated editing controllers, plug in the SA-K281UA RS-422 board. Other boards include the SA-K281UA 45-pin board for connection to older JVC editing systems, the SA-N50U ONR 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.

DIGITAL S

BR-D40 Digital Dockable Recorder

BR-D50 Digital Player

BR-D80 Digital Editing Recorder

BR-D85 Digital Editing Recorder with Pre-Read

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

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

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

Digital-S starts with the versatile BR-D40 Dockable Recorder. Designed to produce the highest quality raw footage, the BR-D40 features automatic editing which utilizes a built-in time code reader/generator to ensure perfect, frame-accurate in-camera edits. Time code input and output slave-lock function facilitates editing the tapes from multi-camera or iso-cam shooting. Edit with a choice of two powerful editing recorders—top-of-the-line BR-D85 with pre-read and digital I/O or the economical BR-D80. Completing the line is the BR-D50 Player and the flexible BR-D51 Player with S-VHS playback (Available Oct. 96). Both players accept the optional SA-D50U digital I/O interface card.

Broadcast Quality Digital Video

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

Robust 1/2-Inch Format

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

Digital Editing

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

PRE-READ EDITING (BR-D85 Only)

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

Operational Conveniences

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

SONY COLOR MONITORS

PVM-1350 13" Presentation Monitor

- Employs a P-22 phosphor line pitch CRT to deliver stunning horizontal resolution of 450 horizontal lines.
- Beam current feedback circuit eliminates white balance drift for long term stability of color balance.
- Has analog RGB, S-video and two composite video (BNC) inputs as well as 4 audio inputs.
- Automatic Chroma/Phase setup mode facilitates the complex, delicate procedure of monitor adjustment. Using broadcast standard color bars as a reference, this function automatically calibrates chroma and phase.
- Chroma/Phase adjustments can also be easily performed with the monochrome Blue Only display.
- Factory set to broadcast standard 6500K color temperature.
- On power up, auto degaussing is performed. There is also a manual degauss to demagnetize the screen.
- On-screen menu facilitates adjustment/operation on the monitor. Menu display is in English, French, German, Spanish or Italian.
- Sub control menu allows fine adjustments to be made on the knob control for contrast, brightness, chroma and phase.



PVM-1351Q 13" Production Monitor

- Has all the features of the PVM-1350 PLUS.
- A multisystem monitor, it accepts NTSC, PAL and NTSC video signals. NTSC 4.43 can also be reproduced.
- Equipped with a SMPTE 259M Serial Digital Interface. With optional serial digital interface kit BKM-101C for video and the BKM-102 for audio the PVM-1351Q can accept SMPTE 259M component serial digital signals.
- Equipped with RS-422 serial interface. With optional BKM-103 serial remote control kit, all of the monitor's functions can be remotely controlled.
- Inputs include analog RGB, S-video, component, 2 composite video (BNC) and 4 audio for complete flexibility.
- Aspect ratio is switchable between 4:3 and 16:9 simply by pressing a button.
- Underscan function allows you to view entire image and check the picture edges. Also H/V delay to view the blanking area, sync/burst timing by displaying the horizontal and vertical intervals in the center of the screen.
- Color temperature switchable between 6500K/9300K/User preset. 6500K is factory preset. 9300K is for a more pleasing picture. User preset is 3200K to 10,000K.

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

All the features of the PVM-1351Q PLUS:

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

Why pay \$10,000 to \$15,000 for a
BROADCAST QUALITY CHARACTER GENERATOR
when you can get it for only \$2995?
Introducing the new.....

VIDEONICS PowerScript



Animated Postscript Character & Graphics Generator

A technological and engineering breakthrough, the PowerScript is the most advanced video character generator ever designed for video production, multimedia and industrial applications. It delivers the huge range of titles and graphics supported by PostScript display technology, plus animation, effects, transparency and color keying. It features two GPI inputs, anti-aliased, 17.5 ns (nanosecond) pixel resolution and 4:2:2 broadcast-quality video, plus high-speed RISC processing to provide real-time Level 2 PostScript imaging and fast rendering—even with the most complex images. The PowerScript works stand-alone or with a computer, has a built-in TBC, offers a powerful and intuitive interface, and is suitable for the desktop or can be rackmounted.



Powerful Character Generator

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

Intuitive User Interface

- Built-in real-time object-based drawing tool and text editor—no external computer or software required. Design can be done ahead of time and displayed later, or can be done on the fly.
- Supplied keyboard and mouse are used with easy on-screen menus to place and modify graphics and text.
- Change fonts, colors, and other characters instantly.

Transparency and Colors

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

Roll, Scrawl, Animation, Effects

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

Backgrounds and Graphics

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

Imported Logos and Graphics

- Import and display complex graphics created with programs like Photoshop, Corel Draw and Adobe Illustrator.
- Accepts most PostScript or PCX format graphics without modification. Imported images can be any size and can be scaled, skewed, and rotated when placed on screen. Transparency and anti-aliasing can be defined when graphic is generated.

Expansion Capabilities

Although PowerScript operates on its own, you can still add peripherals and connect to a computer or network. Two PC-card slots allow the addition of non-volatile flash-RAM and Ethernet cards. RS-232 port allows connection to desktop computers for added storage and downloading of fonts or graphics from a PC.

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



FOR ORDERS CALL: 800-947-9938 212-444-5038

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


ALL ORDERS SHIPPED
WITHIN 24 HOURS
OVERNIGHT SERVICE AVAILABLE

On the Web: <http://www.bhphotovideo.com>

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.

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 switches, effects generators, TBCs, VCRs, cameras and video edit controllers.

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

\$269



CSG-50 Color Bar/Sync/Tone Generator

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

\$349

WE STOCK THE FULL LINE OF HORITA PRODUCTS INCLUDING:

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

NewTek LIGHTWAVE 3D 5.0

The Ultimate 3D Rendering and Animation System for Broadcast Graphics

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

- LightWave 3D 5.0 is also the only product to break the poly-gone/spline barrier with the introduction of MetaNURBS. MetaNURBS performs real time transformations between polygons and splines, enhancing your ability to create organic 3D objects easily. MetaNURBS is the first tool to effectively utilize strengths of both techniques making it easier than ever to create stunning 3D models.
- Another new modeling feature is MetaBalls, which utilizes spheres to quickly approximate complex shapes. MetaBalls automatically generates a skin based upon that approximation, transforming it into a complex 3D model
- LightWave 3D 5.0 includes over 100 new features that enhance your ability to create visual effects for television, corporate, entertainment and personal 3D animation.

SANYO

GVR-S950 S-VHS Single Frame Recording VCR

- Built-in single-Frame Animation Controller eliminates the need for separate or computer plug-in animation controllers. Industry-standard protocols, make it compatible with most popular graphic and animation software packages.
- SMPTE Time Code Generator and Reader with Built-in Drop and Non-Drop Frame Read/Write is fully programmable from an external computer and 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.



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

GVR-S955 S-VHS Single Frame Recording VCR

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

DIGITAL PROCESSING SYSTEMS INC.

DR-2150 Personal Animation Recorder

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

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

PVR-2500 Digital Video Recorder

The PVR-2500 offers powerful features for awesome animation, morphing and rotoscoping capabilities. With features like 720 x480 resolution, 10-bit 2x oversampled video encoding, better than D1 scaling, component and S-Video outputs, multi-processor support and FAST SCSI-2 hard drive controller, Perception empowers your computer to rival the finest professional production studios.

- The PVR-2500 is a full-length PCI card with a SCSI-II interface which connects to one or up to seven dedicated hard drives. Because the SCSI controller is integrated with the PVR-2500, video data never has to move over the PCI bus during playback. This avoids the bottlenecks found in systems which use the computer's hard drive for video storage.
- Designed to run under Windows NT 3.5 on computers employing 486 (DX2-66 or higher) Pentium, DEC ALPHA or MIPS processors. Perception's software utilizes NT 3.5's native support for multitasking and multiple processors, allowing use with the most powerful computers.
- Perception's exclusive multi-format virtual file system ensures complete integration with your existing Windows NT applications. Any acquired video or computer generated Perception video clips appear simultaneously in many different file formats including TARGA, SGI, BMP and TIFF. Also compatible with new NT versions of LightWave 3D, 3D Studio, TOPAS 5.1 Pro, Softimage and Elastic Reality.
- Video output section utilizes 10-bit 2x oversampled encoding and provides broadcast quality CCIR-601 (720 x480) resolution. It's dynamic range is in excess of D1 scaling so that images are brighter, have more color and greater spatial resolution. Component, composite and S-Video outputs are provided via the included breakout cables.
- Use with any compatible sound card while synchronization of audio and video is maintained by the PVR software. Captured audio is stored on the computer's system hard drive, not on the dedicated drives. This approach provides maximum flexibility for manipulating audio and video during editing.
- Can perform real-time interpolation of 30 fps video to 24 fps film rates or vice versa.
- Perception controls BVU protocol VCRs for video acquisition. VCR-like controls on the Perception's GUI simplifies the task of batch digitizing and recording. In this mode, reads SMPTE time code from the source deck.
- Drivers for Windows 3.1 are supplied as well so third party editing software like Adobe Premier can be used. In fact the PVR-2500 bundled with the AD-2500 capture card, a sound card, editing software and one or more SCSI hard drives becomes a non-linear editor of unparalleled performance at an unbeatable price.

AD-2500 CAPTURE CARD

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

Turnkey PVR-2500/AD-2500 w/Adobe Premiere 4.2 Windows NT Turnkey System:

- 220-watt, 6-bay midtower case • PCI motherboard with 512K pipelined burst cache • Pentium 166 MHz processor
- 9FX Motion 771 4MB VRAM PCI display card • 32MB of EDO (Extended Data Out) RAM
- Quantum 1.28GB IDE system drive • Seagate (BarraCuda) 4.2GB narrow hard drive
- MediaTRIX AudioTRIX Pro DSP-equipped 16-bit audio card • Teac CD-58E 8X EIDE internal CD-ROM drive
- 3.5" floppy drive • Aitec-Lansing 300.1 three-piece deluxe speaker system
- Princeton Ultra 17" high resolution 17-inch multiscan monitor • Focus 2001A keyboard
- Microsoft MS mouse • Windows NT 3.51 operating system software

6995.00

PROFESSIONAL VIDEO TAPE

| | | |
|----------------|----------------|-----------------|
| PG-30.....2.29 | PG-60.....2.49 | PG-120.....2.69 |
| SG-30.....3.39 | SG-60.....3.99 | SG-120.....4.49 |
| ST-30.....6.99 | ST-60.....7.49 | ST-120.....7.99 |

M221 Hi 8 Double Coated

| | |
|-------------------|---------------------------|
| Metal Particles | Metal Evaporated Position |
| P630HMP.....4.99 | E630HME.....8.39 |
| P660HMP.....6.49 | E660HME.....10.49 |
| P6120HMP.....8.49 | E6120HME.....13.99 |

M321SP Metal Betacam (Box)

| | |
|---------------|---------------|
| 05S.....17.95 | 10S.....18.49 |
| 20S.....19.95 | 30S.....22.95 |
| 60L.....31.95 | 90L.....49.95 |

AMPEX

289 Industrial S-VHS

| | | |
|-----------------|-----------------|------------------|
| ST-30A.....7.49 | ST-60A.....7.79 | ST-120A.....7.99 |
|-----------------|-----------------|------------------|

maxell

BQ Certified Hi-8 Metal Cassettes

| | |
|-----------------------|----------------------|
| P6-30 HM BO.....5.39 | P6-60 HM BO.....6.09 |
| P6-120 HM BO.....7.99 | |

PA PLUS Expatial VHS

| | | |
|---------------------|---------------------|--------------------|
| T-30 Plus.....1.69 | T-60 Plus.....1.99 | T-90 Plus.....2.09 |
| T-120 Plus.....2.19 | T-160 Plus.....2.69 | |

HGX Gold VHS-C

| | |
|----------------|--|
| TC-20.....3.39 | |
|----------------|--|

HGX-PLUS Expatial VHS (Box)

| | |
|------------------------|------------------------|
| HGXT-60 Plus.....2.69 | HGXT-120 Plus.....2.99 |
| HGXT-160 Plus.....3.99 | |

BQ Broadcast Quality Expatial VHS (Box)

| | | |
|------------------|------------------|-------------------|
| T-30 BQ.....5.49 | T-60 BQ.....6.19 | T-120 BQ.....7.39 |
|------------------|------------------|-------------------|

BQ Certified Professional S-VHS (In Box)

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

BQ S-VHS-C

| | |
|-------------------|--------------------|
| STC-20BQ.....7.99 | STC-30BQ.....10.99 |
|-------------------|--------------------|

KCA 3K U-Matic 8.0

| | | |
|--------------------|--------------------|--------------------|
| KCA-580.....8.45 | KCA-1080.....8.95 | KCA-2080.....10.22 |
| KCA-3080.....11.31 | KCA-6080.....14.97 | |

Betacam SP

| | | |
|------------------|------------------|------------------|
| B5MSP.....15.75 | B10MSP.....17.75 | B20MSP.....19.75 |
| B30MSP.....20.50 | B60MSP.....29.75 | B90MSP.....46.49 |

DV 6mm DIGITAL TAPES

| | |
|----------------------|-----------------------|
| AY DVM-30EA.....9.95 | AY DVM-60EA.....13.50 |
|----------------------|-----------------------|

Sony

| | |
|--------------------|--------------------|
| DVM-30ME.....15.99 | DVM-60ME.....19.95 |
|--------------------|--------------------|

SONY

Hi-8 Professional Metal Video Cassettes

| | |
|---------------------|-----------------------|
| P6-30 HMPX.....4.59 | P6-30 HMEAX.....7.99 |
| P6-60 HMPX.....5.59 | P6-60 HMEAX.....11.49 |
| P6-120HMPX.....8.89 | P6-120HMEAX.....15.49 |

NEW! Hi-8 Metal Evaporated Editor (HMEAD)

| | |
|------------------------|-----------------------|
| E6-30 HMEAD.....10.49 | E6-60 HMEAD.....14.89 |
| E6-120 HMEAD.....20.19 | |

PR Series Professional Grade VHS

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

PM Series Premier Grade Professional VHS

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

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

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

MQ Master Quality S-VHS (In Box)

| | |
|------------------|-------------------|
| MOST-60.....7.99 | MOST-120.....8.39 |
|------------------|-------------------|

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

| | |
|----------------------------|----------------------------|
| KCS-10 BRS (mini).....8.29 | KCS-20 BRS (mini).....8.99 |
| KCA-10 BRS.....8.19 | KCA-20 BRS.....8.69 |
| KCA-30 BRS.....9.69 | KCA-60 BRS.....13.39 |

XBR 3/4" U-Matic Broadcast Master (In Box)

| | |
|----------------------------|-----------------------------|
| KCS-10 XBR (mini).....8.79 | KCS-20 XBR (mini).....10.19 |
| KCA-10 XBR.....9.29 | KCA-20 XBR.....10.69 |
| KCA-30 XBR.....11.99 | KCA-60 XBR.....15.69 |

KSP 31/4" U-Matic SP Broadcast (In Box)

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

BCT Metal Betacam SP Broadcast Master (Box)

| | |
|---------------------------|---------------------------|
| BCT-5M (small).....14.99 | BCT-10M (small).....15.99 |
| BCT-20M (small).....17.99 | BCT-30M (small).....18.99 |
| BCT-30ML.....21.49 | BCT-60ML.....27.99 |
| BCT-90ML.....41.99 | |

BCT Metal Professional Series

| | |
|---------------------|---------------------|
| UVW-30MLA.....18.95 | UVW-60MLA.....24.99 |
| UVW-90MLA.....39.95 | |

FOR PHOTO & VIDEO"



TO INQUIRE ABOUT YOUR ORDER:

800 221-5743 • 212 807-7479

OR FAX 24 HOURS: 212 366-3738

119 WEST 17TH STREET, NEW YORK, N.Y. 10011

Store & Mail Order Hours:

Sun 10:45 • Mon & Tues 9-6 • Wed & Thurs 9-7:15 • Fri 9-1 • Sat Closed

BUSINESS LEASING AVAILABLE



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 switch, level & headphone level output controls.
- Can be powered by a 9V battery for 10 hours.
- HT-3 hand-held transmitter can be used with mic elements like Shure SM 58 cardioid mic or Samson UMIC.
- CT-3 (L) body pack transmitter can be used with leading lavalier mics like Sony ECM-44 or Audio Technica AT-831.

Lavalier (clip mic) Systems

- CT-3 Transmitter with Audio Technica AT-831 and MR-1 Receiver **396.95**
- CT-3 Transmitter with Sony ECM-44 mic & MR-1 Receiver **419.95**
- CT-3 Transmitter with Audio Technica AT-831 unidirectional mic & MR-1 Receiver **419.95**

Hand-Held Systems

- HT-3 transmitter with Samson UMIC hypercardioid mic and MR-1 Receiver **396.95**
- HT-3 transmitter with Shure SM-58 cardioid mic and MR-1 Receiver **452.50**

SUPER TD SERIES TRANSMITTERS

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

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

- Sony ECM-144 **507.95** Sony ECM-44 **544.95**
- Sony ECM-55 **553.95** Sony ECM-77 **724.95**
- Senheiser MKE-2 **747.95**

SENNHEISER



MKE-300 Shotgun

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

MACKIE

MICRO SERIES 1202-VLZ

12-Channel Ultra-Compact Mic/Line Mixer

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

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

MS1402-VLZ

14 x 2 Compact Mic/Line Mixer

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

- Studio grade mic preamps (chs. 1-6) with high headroom, low noise and phantom power. Also incorporate low cut filters to cut mic handling thumps, pops and wind noise. Lets you safely use low shelving EQ on vocals.
- Trim controls (chs. 1-6) with ultra wide range (+10 to -40dB) handle everything from hot digital multitrack leads to whispering lead singers and older, low output keyboards.
- Panel control with constant loudness and high L/R attenuation so you can pan hard left or right without bleed-through.
- Two aux sends per channel with 15dB extra gain above unity.

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

CR-1604 VLZ 16-Channel Mic/Line Mixer

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

- Lowest noise and highest headroom (90 dB working S/N and 108 dB dynamic range).
- Genuine studio-grade, phantom powered, balanced input mic preamps on channels 1-16. All CR-1604 VLZ discrete input mic preamp stages incorporate four conjugate-pair, large-emitter geometry transistors. So, whether recording nature sound effects or heavy metal, mixing flutes or rock drums, you get the quietest, cleanest results possible.

- 3-band EQ with mid-frequency sweep and low cut switch.
- AFL/PFL solo and mute switches with overload and signal present indicators.
- Rear panel features include insert points and 1/4-inch XLR connectors on every channel, as well as RCA tape inputs/outputs.
- Rotary input/output "pod" allowing three different positions for set-up.

AZDEN

PRO SERIES VHF Wireless Microphones

The AZDEN PRO SERIES brings you high performance VHF wireless at an affordable price. Built around a 2-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.



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 a belt or fits in a pocket
- Battery-powered receiver comes with belt-clip, velcro and shoe mount. Includes earphone monitor **149.95**

WLX-PRO

- Sensitive lavalier mic with attachable clip. Includes wind screen, earphone monitor, shoe mount, velcro
- Lightweight belt-pack transmitter with 2 frequencies **139.95**

WHX-PRO

- Handheld microphone with built-in transmitter (no wires, belt-pack), 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 **159.95**

PRO SERIES COMPONENTS

WL-T-PRO

- Lavalier mic with belt-pack transmitter (same as WLX-PRO except without receiver). Combine with the WHX-PRO to form a complete system of one handheld and one lavalier mic with receiver **79.95**

WMT-PRO

- Combine with the receiver from the WMS or WLX-PRO and you have a high quality handheld mic for interviews or pass around
- 3-position switch for on, off and 'standby' for quiet switching
- Choose from 2 frequencies for cleanest sound **119.95**

WR22-PRO

- Unique new receiver with 2 antennas which allows you to use any two Pro Series mics simultaneously
- Each transmitter can be over 250 ft. from the receiver.
- Stereo outputs record the sound from each microphone separately on stereo cameras
- Operates on a 9 volt battery and with optional adapters on 12 volt DC or 120 volt AC **189.95**

111 PRODUCER SERIES

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

111R RECEIVER

Features output volume adjustment, balanced or unbalanced output capability and adjustable mute switch. It also has headphone output with volume adjustment, removable rubber duck antenna and 9volt battery or DC 12volt power input. It includes a mini-mini output cable, with mini to XLR and mini to phone plug, available as options.

31 LT LAVALIER BODYPACK

- Choice of high quality plug-in or mini-directional electret condenser mic, input level control for maximum flexibility
- Constructed of durable ABS housing
- 3-position power switch with standby for muting studio

31 HT HANDHELD TRANSMITTER

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

31 XT PLUG-IN

- Unique plug-in transmitter turns any "wired" microphone with XLR output into a wireless
- Full range of on-board controls, including power on/off, audio mute and status LED, input level control for maximum flexibility

| | |
|--|---------------|
| 111LT Lavalier Mic System, Includes: 111R Receiver, 31LT Bodypack and Omnidirectional Lavalier | 295.00 |
| 111HT Handheld Mic System, Includes: 111R Receiver and 31HT Handheld Mic | 349.00 |
| 111XT Plug-in Transmitter System, Includes: 111R Receiver and 31XT XLR Transmitter | 369.00 |

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 4.8 lbs for all day comfort
- Dual outputs allow 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 13.2V output configuration, model 600 overnight charger, comprehensive owner's manual. Fits waist size 29"-44"
- Also available in 13.2-Volt 14-amp version. The 13.2-Volt version offers 15-20% longer runtimes because industrial VCRs shut off at higher voltage levels. By not shutting off the Power-MAX is allowed to fully discharge, thus the longer running time.

VARA-LITE PRO

Professional DC On-Camera Light

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



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

ALL ITEMS ARE COMPLETE WITH ALL ACCESSORIES AS SUPPLIED BY MANUFACTURER

FOR INFORMATION CIRCLE 129

FREE! Micro 2000 Custom T-shirt
with orders over \$800.00!



MICRO 2000

800-701-7255

INFO: 516-741-6666 FAX: 516-741-6670

28 TERMINAL DRIVE SOUTH PLAINVIEW, NY 11803

If you
don't see it
in our ad,
please call. We
carry over 100,000
products!

SE HABLA ESPAÑOL

RUSS
1220
IS HERE!
ASK FOR
EXT. 101
BUSINESS HOURS
MON-FRI
9 - 5
VOICE MAIL
& FAX 24HR

At Micro 2000 we believe in making customers, not just sales! We back that up with an 18 day money-back guarantee
free shipping on orders above \$2000.00, Low price guarantee, quick delivery and our free system consultation services

HARDWARE

| | |
|-------------------------------|-------|
| CD Solutions 14" Monitor | 559 |
| lomega Zip / Jazz / Carts | Stock |
| Kitchen Sync Two Chan TBC | 1189 |
| Cybervision 64 2MB | 379 |
| Cybervision 64 4MB | 479 |
| Y/C + | 829 |
| GVP 040-33MHZ | 719 |
| GVP 040-40MHZ | 919 |
| GVP 060-50MHZ A4000 | 1189 |
| AmigaDos 3.1 Kit | 119 |
| Digimax 3D Scanner | 619 |
| Amtrak Tracball | 61 |
| Crystal Tracball | 38 |
| Hydra Ethernet Card | 279 |
| Atadine Ethernet Card | 259 |
| A2000,A3000 Keyboards | 89 |
| Mice | 29 |
| Little Magic Box | 629 |
| Supergen SX | 679 |
| Supergen SX Bundle | 729 |
| Picasso II 2 Meg | 359 |
| 4x SCSI CD-ROM | 119 |
| Emplant Deluxe | 329 |
| Emplant Mac Roms | 229 |
| Emplant 586 Module | 119 |
| Cyberstorm 060-50 | 789 |
| Cyberstorm I/O Module | CALL |
| Cyberstorm SCSI II Controller | 149 |
| 14.4 External Modem | 129 |
| 28.8 External Modem | 169 |
| Sync Strainer | 55 |

ASIM CDFS

| | |
|--|-------|
| Amiga CD-ROM File System \$64.95 | |
| Master ISO - Control a CD-Writer to create your own CD's | \$139 |
| Photo CD Manager | CALL |
| Texture Heaven 1 | 65 |
| Texture Heaven 2 | 65 |

DPS



| | |
|-----------------------------|--------|
| Personal Animation Recorder | |
| Amiga Version | \$1649 |
| IBM Version | \$1649 |
| Personal TBC IV | \$795 |
| Personal TBC III | \$689 |
| 1 Gig A/V Drive | \$245 |

| | |
|--------------------------------|--------|
| Perception Video System | |
| PVR-2500 | \$1599 |
| Capture AD-2500 | \$875 |
| RC-2000 Remote | 269 |
| Perception Bundle | 2489 |
| Seagate Video Drives in Stock! | |



"Specializing in Newtek Desktop Video Solutions"



HOW TO BUILD THE PERFECT TOASTER / FLYER SYSTEM:

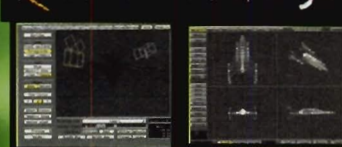
| | | |
|----|---------------------------|----------|
| 1 | VIDEO TOASTER 4000 v4.0 | \$1,995! |
| 2 | AMIGA A-4000 T 040-25 | \$2,699! |
| 3 | MEMORY UPGRADE PER 4MG | \$79 |
| 4 | CD SOLUTIONS 14" MONITOR | \$569 |
| 5 | VIDEO FLYER CARD | \$3,934 |
| 6 | SEAGATE 2 GIG VIDEO DRIVE | \$819 |
| 7 | SEAGATE 4 GIG VIDEO DRIVE | \$1,029 |
| 8 | SEAGATE 9 GIG VIDEO DRIVE | \$1,934 |
| 9 | OCTOPUS CABLE | \$103 |
| 10 | EXTERNAL TOWER CHASSIS | \$219 |
| 11 | SCSI 4X CD-ROM | \$109 |
| 12 | SHOP AT MICRO 2000! | |

AMIGA A 4000 T

3D & RENDERING SOFTWARE



LIGHT WAVE 3D



\$1,039.95!

NEW! VER 5 INTEL
JUST RELEASED!
ALPHA VERSION \$1,139.95
5.0 UPGRADE \$409!

See us on the World Wide Web! WWW.MICRO-2000.COM

| | |
|------------------------------|-----------|
| Lock & Key | 165 |
| Impact Amiga | 199 |
| Impact Intel | 329 |
| Macroform | Call |
| Humanoid | 164 |
| World Construction Set Amiga | 369 |
| Interior Design Collection | 145 |
| Universal 3D CDROM | 114 |
| World Construct. Set Intel | 519 |
| Moving Textures 100 | 235 |
| Moving Textures 200 | 235 |
| Particle Storm Intel | 199 |
| Acuris Libraries | Call |
| Wavefilter | 139 |
| LightRom Vol 1 | 38 |
| LightRom Vol2 | 48 |
| Hollywood F/X Amiga / Intel | 249 / 729 |
| Fiber Factory Amiga / Intel | 64 / 99 |
| Sparks Amiga / Intel | 118 / 179 |

\$2,699!
In Stock!

DKB PRODUCTS

| | |
|-------------------------------|-----|
| 3128 Memory Card | 20 |
| Rapid Fire SCSI II Cont | 13 |
| Cobra 28Mhz A1200 | 14 |
| Cobra 40Mhz A1200 | 20 |
| Mongoose 50Mhz A1200 | Co |
| Ferret SCSI Controller | 9 |
| 1202 Memory Board | 11 |
| Megachip 2000 | 21 |
| Expand your chip ram to 2 | |
| Megs on a A2000 or A500 | 22 |
| Wildfire 060 Fast SCSI II/Ram | 127 |
| Multistart II Boot Selector | 3 |

| | |
|----------------------------|----|
| Datalflyer SCSI + A4000 | 10 |
| Datalflyer 4000sx SCSI | 8 |
| Datalflyer 4000sx-25 | 8 |
| High Flyer w/ Power Supply | 37 |
| Fan Kit | 3 |
| Cabling Kit | 5 |

SPECIALS:

| | |
|----------------------------|--|
| EPSON 24 BIT COLOR SCANNER | |
| 16 MILLION COLOR - FLATBED | |
| \$299.95!!! | |
| DEC ALPHA COMPUTER 166MHZ | |
| 24MB RAM 340HD KBOARD | |
| MOUSE SVGA 1600X1200! | |
| \$929.95 | |

Software

| | |
|----------------------------|--------|
| Cross Dos 6.0 | 3 |
| Enlan DFS | 18 |
| Alpha Paint | 34 |
| Broadcast Titrer II | 19 |
| Ami TCP/IP | 8 |
| Fifte Gear 4000 | 17 |
| Control Tower | 12 |
| WordsWorth | 13 |
| Scene Machine Win | 15 |
| WaveMaker | 15 |
| TVPaint | 29 |
| Dpoint5 | 9 |
| Brilliance | 8 |
| PowerMacros LW | 8 |
| VistaPro 3.0 Amiga / Intel | 65 / 6 |

Amiga Printers

| | |
|----------------------------------|-----|
| Canon BJC-210 Color | 23 |
| Canon BJC-4100 Color | 32 |
| Canon BJC 610 | 41 |
| Epson Stylus IIs | 24 |
| Epson Stylus II | 33 |
| Epson Stylus Pro | 56 |
| Epson Stylus Pro XL | 169 |
| Fargo Foto Fun | 36 |
| Fargo Primera Pro | 125 |
| HP Deskjet 680 | 25 |
| HP Deskjet 820 | 39 |
| Studio II Printer Driver Kit | 9 |
| Epson Stylus Printer Driver | 4 |
| T-shirt Transfer Paper for Canon | |
| All Supplies and Refills | |

layout & design by andres - image in video & grafix/914.968.6770

Smart shoppers always read the fine print, but in this case it's all good news! You don't need written authorization to return merchandise to us, just call for RMA#. You have 18 days after receipt of goods for adjustments. All merchandise may be returned for refund or exchange as long as it is in original condition, except software and media. Shipping & handling is additional and is not refundable (Free shipping above \$2000.00 Ltd time offer. There is no restocking fee except on items that are missing instructions manuals, minor packing materials, etc.) We gladly give free system consultations. We accept Visa, MC, Discover, COD, Amex, Money orders and wire transfer. Personal Checks are held for clearance. See habla espanol. Visit our Web Site at WWW.MICRO-2000.COM. We meet or beat prices! Express Shipping available. Corporate and Government PO's welcome. If you don't see it in our ad, please call. Prices fluctuate, they may even be lower! Your satisfaction is our main concern!

MICRO 2000

INFO:516-741-6666 FAX:516-741-6670

800-701-7255

..... MORE STUFF

| | |
|---|----------|
| Multiface 3 | \$ 88.00 |
| Photo CD Manager | \$ 38.00 |
| Image FX 2.6 | \$239.00 |
| Complete Post Production w/Toaster | \$ 18.38 |
| FX Kit for Lightwave book | \$ 28.99 |
| Power FX Addendum 5.0 | \$ 21.95 |
| Rocgen Plus | \$195.00 |
| Pyramid MIDI Interface | \$ 38.99 |
| Termite | \$ 38.99 |
| Megalosound | \$ 59.95 |
| Directory Opus | \$ 84.00 |
| Surf Squirrel | \$135.00 |
| Scala MM300 | \$169.00 |
| Scala MM400 | \$ 89.95 |
| Typesmith 2.5 | \$ 59.95 |
| Pagestream 3.0H2 | \$179.95 |
| Word Worth | \$119.00 |
| Surface Pro for Lightwave | \$ 65.00 |
| Termite TCP/IP | \$ 59.00 |
| Ibrowse | \$ 39.95 |
| Quarterback 6.1 | \$ 55.95 |
| Quarterback Tools | \$ 48.95 |
| Quarterback/Tools bundle | \$ 85.00 |
| Co-Pilot Video | \$ 85.95 |
| Video Action NT w/effects | \$799.00 |
| Adobe Premier 4.2 | \$519.95 |
| Wovenet Pro | \$259.00 |
| Mesh Paint (Intel) | \$349.00 |
| Yamaha 4x read/2x write CD ROM recorder | \$669.00 |

SPECIAL SYSTEM CONFIGURATIONS

Toaster System #1

A-4000-040-25 1GB
14inch monitor
Video Toaster 4000
keyboard, mouse
18MB Ram

\$5,499

Toaster System #2

A-4000-040-25 1GB
14inch monitor
Video Toaster 4000
Cyberstorm 060-50
MHZ
34 MB Ram
keyboard, mouse

\$6,445

Toaster System #3

A-4000-040-25
Cyberstorm 060-
50 MHZ
Video Toaster
4000
17 inch monitor
2 GB HD, 66 MB
Ram
keyboard, mouse

\$7,395

Toaster System #4

A-4000-040-25
Cyberstorm 060-
50 MHZ Video
Toaster 4000
21 inch monitor
(Hitachi)
130 MB Ram
4 GB HD
keyboard, mouse

\$8,395

FLYER SYSTEM SPECIALS

Flyer #1

Mid Tower Chassis
Custom SCSI Cabling
Octopus Cable
2 x 2 GB Video Drive
1x 1 GB Audio Drive
4x SCSI CD ROM
Video Flyer Card

\$5,995

Flyer #2

Mid Tower Chassis
Custom SCSI Cabling
Octopus Cable
2 x 2 GB Video Drive
1x 1 GB Audio Drive
4x SCSI CD ROM
Video Flyer Card

\$6,295

Flyer #3

Full Tower Chassis
Custom SCSI Cabling
Octopus Cable
2 x 4 GB Video Drive
1x 1 GB Audio Drive
4x SCSI CD ROM
Video Flyer Card

\$6,595

Flyer #4

Video Flyer Card
Full Tower Chassis
Custom SCSI Cabling
Octopus Cable
1x 9 GB Video Drive
1x 4 GB Video Drive
1x 1 GB Audio Drive
4x SCSI CD ROM

\$7,295

Flyer #5

Video Flyer Card
Super Tower (10 bay
300WT)
Custom SCSI Cabling
Octopus Cable
2 x 9 GB Video Drive
1 x 2 GB Audio Drive
4x SCSI CD ROM

\$8,695

Flyer #6

Video Flyer Card
2 x 9 GB Video Drive
2 x 4 GB Video Drive
2 x 2 GB Audio Drive
4x SCSI CD ROM
Exabyte 7 - 14 GB SCSI
Super Tower (10 bay
300WT)
Custom SCSI Cabling
Octopus Cable

\$12,995

Free Installation On All Flyer Systems

FOR INFORMATION CIRCLE 193

layout & design by andres - image in video & grafix/9/14,968,6770

FREE SHIPPING FREE INSURANCE

19 years
of expertise and service

TriState

Camera & Video

650 6th Avenue (corner 20th street) New York, NY 10011

Camcorders • VCR's • Monitors • Editors • Mixers • Tripods • Lights • Batteries • Microphones

Order Toll-Free (US & Canada):
800-220-2224
Information & Orders:
212-633-2290
"Se Habla Español"

Customer Service:
212-633-6807
24 Hour Fax Line:
212-633-7717
E-Mail:
tscamvid@aol.com

SONY



**AUTHORIZED
USA DEALER**



- WE ARE RECOGNIZED BY SONY CORP. OF AMERICA.
- WE SELL FACTORY FRESH SONY PRODUCTS WITH ALL ACCESSORIES IN CARTON.
- WE FEATURE ALL ADVERTISED SONY PRODUCTS WITH AMPLE STOCK.
- WE ASSURE THAT ALL SONY PRODUCTS SOLD BY US WILL BE SERVICED BY AN AUTHORIZED SONY SERVICE CENTER.
- AT TRI-STATE, WE GIVE YOU SONY WITHOUT THE BALENOY!
CALL FOR THE LOWEST PRICE!

Canon



- RC Time Code • Hi 8mm • Digital Effects • HiFi Stereo • 15x1 Zoom • Over 400 Lines Hi Resolution • Optical Image Stabilization • Interchangeable Lens Mount System & More.

| | |
|----------------------------------|--------|
| L-2 | CALL |
| CL8-120 15X Lens | 459.95 |
| CL8-7 68 8X Lens | 299.95 |
| CL5-15 3X Lens | 549.95 |
| CL250 F4 Reflex Lens | 539.95 |
| CL10-100 10X Image Stabilization | CALL |
| CL-2X Extender | 299.95 |
| EOS Adapter VL | 299.95 |
| FS-720 Filter Set | 99.95 |
| HC-2000 System Case | 239.95 |
| RS-1000 Rain Shield | 49.95 |
| FP-100 Film/Slide Adapter | 129.95 |

NEW! ES-3000

- Hi 8mm
- 20x Optical/40x Digital Zoom
- Advanced FlexiZone AF/AE
- Built-in Auto Editing Function
- Color Viewfinder



SONY

SWS SVO-2000

This Sony SVO-2000 is an easy to use S-VHS Hi-Fi Editing Recorder. Used in combination with the optional RM-250 Editing Control Unit, the SVO-2000 creates a simple and cost effective two machine editing system. The SVO-2000 features a Dual Mode Shuttle Ring, Auto Repeat, Index Search & Control S-VHS terminals.

RM-250 Edit Controller.....249.95

S-VHS VCR's

| | | | |
|--------------------|--------|----------|--------|
| Panasonic PV-S4566 | 359.95 | PV-S4670 | 354.95 |
| PV-S4680 | 439.95 | PV-S4690 | 679.95 |
| JVC HR-S5200 | 469.95 | HR-S5300 | 469.95 |
| HR-S7200 | 559.95 | HR-S7300 | 599.95 |

Panasonic.



AG-DP800H
SUPERCAM
• Industrial S-VHS • 3-CCD • Digital Signal Processing • 750 Lines Of Resolution

New! AG-456

SWS Camcorder

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

AG-EZ1 Kit

3-CCD Digital Video Camcorder

- 500 Lines of Resolution
- Digital Image Stabilizer
- 1.5" Color Viewfinder
- 270,000 Pixel CCD
- 10x1 Optical Zoom • 20x1 Digital Zoom
- SHAN-MC1 Mic Kit (AG-EZ1).....CALL
- AG-BP25 Battery Pack.....CALL

AG-1980

S-VHS Editing VCR

- Full Field TBC • Digital Noise Reduction
- Separate Audio In/Out • Jog Shuttle
- 3-D Digital YC Separation.

AG-DS540/AG-DS550

S-VHS Digital Editing System



- Built-In LTC/VTC Time Code Generator/Reader • 3-D Time Base Corrector • VTC Digital Noise Reduction
- RS-422A 9 Pin Serial Interface • 32X High Speed Search • Jog/Shuttle Dial

New! AG-DS850H/840

S-VHS Digital Slow Motion Editing System

- AG-188.....574.95
- AG-1310.....219.95
- AG-195.....1029.95
- AG-196.....1029.95
- AG-2550.....319.95
- AG-5210.....689.95
- AG-5700 S-VHS Hi-Fi RS-232 Editing VCR.....1399.95
- AG-5700 S-VHS Hi-Fi RS-232 Editing VCR.....1399.95
- AG-A570 Editing Controller.....599.95
- AG-A96 Editing Controller.....369.95
- AG-W1 Multi Standard Single Converter.....CALL
- AG-710 Player 12V DC.....CALL
- AG-720 Recorder/Player 12V DC.....CALL
- AG-750 S-VHS DC.....CALL

Video Printers

- AG-EP50.....1149.95
- AG-EP60.....749.95
- PT-L290 Proj.....CALL
- AG-EP80.....949.95

Monitors

- CT-1331Y.....CALL
- CT-1384VY.....299.95
- CT-1384Y.....254.95
- CT-2084VY.....374.95
- CT-2084Y.....359.95
- CT-2584VY.....579.95
- CT-S1300Y.....289.95
- BT-S800Y.....579.95
- BT-S901Y.....634.95
- BT-S1000Y.....614.95
- BT-S1360Y.....809.95
- BT-S1370Y.....694.95

VCR/Monitor Combos

- AG-550.....CALL
- AG520A.....519.95
- AG-513A.....379.95
- AG-513B.....389.95

Digital AV Mixers

- WJ-AVE55.....1099.95
- WJ-MX30.....CALL
- WJ-AVE7.....759.95
- WJ-MX50.....3449.95
- WJ-TT17.....279.95
- WJ-KB50.....494.95

JVC

SWS Camcorder

New! GY-X3U

3-CCD S-VHS

- Three High Sensitivity 1/3-Inch CCDs
- Superb Low Light Performance
- Down To 4 Lux
- 60db Signal To Noise Ratio
- Full Size 1.5 Inch Viewfinder
- Full Automatic Shooting (FAS)
- Time/Date Generator Built In
- 14x Servo Zoom Lens Included
- Built In CTL Time Code Generator

GY-X2BU

- 750 Lines Of Resolution
- Pro S-VHS
- 3-CCD Chip
- LCD Display
- 3 LUX Low Light Capable

GR-DV1

World's Smallest and Lightest Digital Video Camera

GV-PT1 Printer

• In-Stock!

KY-27U 3-CCD Dockable Video Camera.....CALL

BR-S378U.....899.95

BR-S382DXU.....CALL

BR-S622DXU.....CALL

BR-S625U.....CALL

SR-3260.....219.95

SR-3360.....269.95

SR-S365.....1039.95

JVC Monitors

TM-550U 5.5" AC/DC.....609.95

TMA-9U.....409.95

TM-1315U 13" S-VHS.....254.95

TM-1400SU 14" S-VHS.....634.95

TM-2084SU 20" S-VHS.....429.95

TM-2784SU 27".....634.95

JVC Edit-Desk

BR-S800U Record/Player S-VHS.....CALL FOR

BR-S500U S-VHS Player.....SPECIAL

RM-6800U Edit Controller.....PRICE!

VIDEONICS

MX-1 Digital Video Mixer.....CALL

Edit Suite (AB-1).....CALL

Sound Effects Mixer (SE-1).....CALL

Thumbs Up Video Editor (TU-1).....CALL

NEW! Thumbs Up (TU-2000).....CALL

Video Palette (VP-1).....CALL

Video Titlemaker (TM-2000).....CALL

NEW! Video Titlemaker (TM-3000).....CALL

NEW! Power Script (PS-1000).....CALL

Video Tape

Fuji

T-60 HQ.....1.95

T-120 HQ.....1.99

T-160 HQ.....2.49

T-60 SHG.....2.59

T-120 SHG.....2.39

T-160 SHG.....3.19

T-20 SHG.....2.79

T-30 SHG.....3.29

T-120 AV Master.....4.29

T-120 AV Master (Box).....5.39

ST-30 S-VHS.....5.35

P-60 8MM.....2.99

T-120 SHG.....2.39

P-60 120 8MM.....2.99

T-160 SHG.....3.19

P-60 150 MP.....4.65

T-20 SHG.....2.79

P-30 HG.....2.75

T-30 SHG.....3.29

P-60 HG.....3.10

T-120 AV Master.....4.29

P-60 120 HI-8.....3.89

T-120 AV Master (Box).....5.39

P-60 HI-8.....3.49

ST-30 S-VHS.....5.35

P-60 HI-8MP.....4.08

ST-60 S-VHS.....5.89

P-60 HI-8MP.....4.89

ST-120 S-VHS.....5.29

P-60 HI-8ME.....6.39

ST-160 S-VHS.....6.99

P-60 HI-8ME.....7.69

STC-20 S-VHS.....4.25

P-120 HI-8ME.....9.89

Pro Video Tapes

Fuji M221 Hi 8mm

P-60 HMP.....4.69

P-60 HMP.....6.49

P-60 HMP.....8.89

P-60 HMP.....7.89

P-60 HME.....10.39

P-60 HME.....13.79

Fuji H471 S-VHS

ST-30.....7.09

ST-60.....7.49

ST-120.....7.89

Sony Professional

MDST 30 S-VHS.....7.10

MDST 60 S-VHS.....7.65

MDST 120 S-VHS.....7.99

P-60 HMP.....4.69

P-60 HMP.....8.35

P-60 PM HMX.....4.20

P-60 PM HMX.....3.59

E6-30HME.....7.69

E6-60HME.....10.79

E6-120HME.....14.49

P-60 HMP.....6.49

lowel

On Camera Lighting

Pro-Light 125/150 Watt AC/100DC.....CALL

Hi-Light 55/100 Watt DC.....CALL

V-Light 500 Watt AC.....CALL

Rifa-Lite System

LC-55 500 Watt.....CALL

LC-66 750 Watt.....CALL

LC-88 1000 Watt.....CALL

Lowel Elemental Kit T0-98

• 1 Tote-light (Less Lamp) with 16' Cable & Protective Screen, T1-10 • 2 Omni-Lights (Lens Lamps) with 16' Cables, #1 Reflectors

• Protective Screens T1-10 • 3 Omni stands 01-33 • 2 Barndoors, 01-20

• 1 full Scrim, 01-54 • 1 Tota-brella, T1-25

• 2 Tota frames, T1-20 • 1 Assorted Gels, T0-78

• 1 Tota/Omni Lamp, T0-61

• 1 Tota/Omni Case, T0-87

NRG

Varalight Pro

Professional On Camera DC light

For Advanced Consumer & Broadcast Use

Now light output can be instantly adjusted to meet changing light requirements, without removing hot bulbs or fusing with power robbing diffusion filters. The Vari-Lite accepts DC bulbs from 20w-100w and allows them to be instantly adjusted from 10%-100% of the lamp's power.

The Vari-Lite Pro virtually eliminates color shift and dramatically conserves battery power.

Varalight Pro, Cigarette.....223.95

Varalight Pro, 4Pin XLR.....238.95

Mite-Lite 30 Watt DC.....93.95

Highlite Dual Beam 20/35/55 Watt DC.....118.95

Versalite 100W DC/250W AC.....118.95

Versalite Pro 100 W DC/300 W/AC.....158.95

Lite-Rite In-Line Light Control.....118.00

MACKEY

New! Micro Series 1202VLZ

12 Channel Audio Mixer.....CALL

1402 VLZ.....CALL

CR 1604 VLZ.....CALL

porta brace

CALL

Quick-Draw Professional

For Camcorders or Stand Alone Cameras

• Heavy Duty Shoulder Strap • Comfortable Leather Hand Grip • Crush Proof Aluminum Guard Protects Viewfinder • Secures In Back Seat • Fastens Securely With Seat Belt

• Holds Camera With On-Board Battery Attached • Lid Closes With Velcro For Quick Opening or Secured With Full-Length Zippers

• Dual Purpose Rear Pouch Is Expandable Battery Chamber or All Purpose Pocket

AZDEN

Pro Series

WHX-PRO.....164.95

WLX-PRO.....139.95

WR22-PRO.....159.95

WMS-PRO.....149.95

WDR-PRO.....199.95

WR2-PRO.....154.95

WMY-PRO.....139.95

WLT-PRO.....79.95

WR-PRO.....79.95

DMH-200.....83.95

EIZ-900.....53.95

DMH-805.....49.95

CAM-3.....44.95

DM-100.....69.95

Wireless Mics</

Store & Mail Order Hours:
Mon-Thurs 9-6; Fri 9-2:30;
Sun 10-5; Closed Sat



No Credit Card Surcharge
Orders Processed Within 24 Hours
Overnight Delivery Available

All of us at Tri-State Camera & Video wish you a happy and healthy holiday season...Thanks for a great year!

Desktop Video • Hardware • Software • Drives • Boards • Monitors • Printers

AMIGA

Software

| | |
|--------------------------|--------|
| Asim CDFS..... | 58.95 |
| Zip/Jaz Tools..... | 38.95 |
| Page Stream 3.1..... | 224.95 |
| Invoice It..... | 39.95 |
| Disk Magic..... | 59.95 |
| Cross Mac..... | 66.95 |
| Termite..... | 42.95 |
| Scala MM300..... | 164.95 |
| Scala MM400 Upgrade..... | 84.95 |
| Organizer..... | 92.95 |
| AMI TCP/IP 4.1..... | 99.95 |
| Image F/X 2.6..... | 229.95 |
| Epson Stylus Driver..... | 38.95 |
| Image Master R/T..... | 68.95 |
| Data Store..... | 99.95 |
| TV Paint..... | CALL |
| Directory Opus 5.0..... | CALL |
| Cross Dos Pro 6.0..... | 39.95 |
| G.P. Fax..... | 67.95 |
| Personal Paint..... | 94.95 |
| Word's Worth..... | CALL |
| Mastering ISO..... | 139.95 |
| Studio Printer 2.1..... | 94.95 |
| Quarterback..... | 42.95 |
| Quarterback Tools..... | 42.95 |
| Disk Salv..... | CALL |
| Termite TCP..... | 59.95 |
| I-Browse..... | 42.95 |

Peripherals & Hardware

| | |
|------------------------------------|---------------|
| Mega Mouse..... | 26.95 |
| Crystal Trackball..... | 38.95 |
| Amtrac..... | 64.95 |
| DKB Mega Chip..... | 198.95 |
| DKB Spit Fire SCSI..... | 89.95 |
| A-520 Video Adapter..... | 29.95 |
| Quick Pak 060..... | 859.95 |
| Cyber Vision 64..... | 379.95/469.95 |
| Power Supply for all Amigas..... | CALL |
| All Custom Amiga Chips..... | CALL |
| DKB Wildfire 060 50mhz..... | 1349.95 |
| GVP-M 060 50mhz I/A-4000..... | 879.95 |
| Cyber Storm MK-II..... | 819.95 |
| Keyboard for A-2000/3000/4000..... | 82.95 |
| Picasso II + 2mb..... | 324.95 |
| High Density Floppies..... | 99.95/129.95 |

Printers



| | |
|------------------------|---------|
| Epson Stylus Pro..... | 389.95 |
| Epson Stylus XL..... | CALL |
| Fargo Foto Fun..... | 389.95 |
| Fargo Primera Pro..... | 1249.95 |
| Canon BJ 620..... | 389.95 |
| HP Deskjet 680c..... | 269.95 |
| OKI OL 600E..... | 359.95 |
| HP Laserjet 5L..... | 449.95 |

Free Printer Drivers for Epson and HP Printers with Purchase.

Monitors



| | |
|----------------------------|--------|
| CD Solutions 1401..... | 539.95 |
| Panasonic S-17..... | 595.95 |
| IDEK MF 9017E..... | 749.95 |
| IDEK MF 9021E..... | CALL |
| Sony Multi Scan 17SFI..... | 769.95 |
| View Sonic 17GS..... | 849.95 |
| Toshiba Timm 20in..... | 799.95 |

Amiga Toaster & Flyer Configurations



Video Toaster Systems

FREE! Bonus CD w/System Purchase
includes: Games, Utilities, Fonts, Toaster
FX's (\$59.95 value)

Basic

- Amiga 4000-T
- 040 25 mhz • 18mb RAM
- 1.2 gig HD • 4x CD-ROM
- Toaster 4000 Version 4.1D
- CD-Solutions 1401

\$4,995⁰⁰

Intermediate

- Amiga 4000-T
- 040 40 mhz • 22mb RAM
- 2.1 gig HD • 6x CD-ROM
- Toaster 4000 Version 4.1D
- CD-Solutions 1401

\$6,195⁰⁰

Advanced

- Amiga 4000T
- 060 50 mhz • 68mb Ram
- 5.1 gig HD • 10x CD-ROM
- Toaster 4000 Version 4.1D
- CD-Solutions 1401

\$7,250⁰⁰

System Special!

- A-4000 Desktop
- 060 50mhz ram
- 2.2 gig HD • 6x CD-ROM
- High Flyer w/Power Supply
- Toaster 400 Ver 4.1
- CD SOLUTION 1401

\$8,150⁰⁰

(Limited Quantities)

Video Toaster/Flyer

Software

| | |
|---------------------------|----------|
| Flite Gear..... | 192.95 |
| Flite VTR..... | CALL |
| Radar..... | 269.95 |
| Spot..... | CALL |
| Co-Pilot Audio..... | 83.95 |
| Co-Pilot Video..... | 83.95 |
| Composite Studio Pro..... | 129.95 |
| Wipe Studio..... | 129.95 |
| Alpha Paint..... | 339.95 |
| Wave Maker..... | 189.95 |
| Hollywood FX..... | CALL |
| Control Tower..... | 134.95 |
| Navigator..... | 82.95 |
| Audio Thunder..... | In-Stock |
| Audio Black Box..... | CALL |
| Pro Mix..... | CALL |

Hardware

| | |
|------------------------------|--------|
| Little Magic Box..... | 649.95 |
| Sync Trap..... | CALL |
| Y/C+..... | 769.95 |
| Y/C+ Toaster Calibrator..... | 149.95 |
| Drive-In Case..... | 389.95 |
| Octopus Cable..... | 109.95 |
| Drive-In A/V Pro..... | CALL |
| Sync Strainer..... | 46.95 |

Shop at Tri-State!

Authorized dealer for:
Newtek, DPS,
Amiga & InSync.

Expert assistance
by trained sales &
service team!

Unbeatable prices,
without gimmicks!

No restocking fees!

No credit card surcharges!

No inflated shipping charges!

19 years of
satisfying customers!

Video Flyer Systems

Basic

- Video Flyer Version 4.1D
- Drive-in Case • Octopus Cable
- 2—2.1 gig Video HD
- 1—1.3 gig Audio HD

\$5,675⁰⁰

Intermediate

- Video Flyer Version 4.1D
- Drive-in Case • Octopus Cable
- 2—4.3 gig Video HD
- 1—1.3 gig Audio HD

\$6,495⁰⁰

Advanced

- Video Flyer Version 4.1D
- Drive-in Case AV 9 Bay
- 1—9.1 Gig + 4.3 gig Video HD's
- Octopus Cable
- 1—1.3 gig Audio HD

\$7,575⁰⁰

Professional

- Video Flyer Version 4.1D
- Drive-in Case AV 9 Bay
- 2—9.0 gig Video HD
- 1—1.3 gig Audio HD
- Octopus Cable

\$8,575⁰⁰

System Special!

- Video Flyer Version 4.1D
- Drive-in Case AV 9-Bay
- 2—3.2 gig Video HD
- 1—2.1 gig Audio HD
- Octopus Cable

\$850⁰⁰

(Limited Quantities)

Super System Savings for 1997

Drives

CD ROM's Optical's Hard Drives

| | |
|-----------------------------------|--------|
| Iomega Jazz Cartridges..... | 89.95 |
| Iomega Jazz 1 gig External..... | 494.95 |
| Iomega Zip 100 External..... | 149.95 |
| Iomega Zip Cartridges (3pk)..... | 49.95 |
| SyQuest EZ Flyer 230..... | 269.95 |
| Exa-Byte 8700 LT 7-14 gig 1069.95 | |
| 3-1/2 & 5-1/4 HD Cases..... | 89.95 |
| Seagate 32140A 2.1 gig..... | 259.95 |
| Quantum Fireball TM 2.1 gig..... | 279.95 |
| Quantum Atlas 1.0 gig HD..... | 259.95 |
| Teac 6x CD-Rom SCSI..... | 179.95 |
| Panasonic 8x CD-Rom SCSI..... | 219.95 |
| Sony 4mm DAT 4-8 gig..... | 892.95 |
| IBM 2.1 gig SCSI..... | 419.95 |

PC Hardware

| | |
|--------------------------------|--------|
| Matrox Millennium 2mb..... | 192.95 |
| Matrox Millennium 4mb..... | 279.95 |
| Millennium Ram Upgrades..... | CALL |
| Diamond Fire GL (Open GL)..... | 894.95 |
| Glyder 3D..... | CALL |
| Imagine 128 Series II..... | 589.95 |
| Audio Trix Pro..... | 249.95 |
| Tropez Plus..... | 232.95 |
| Fast A/V Master..... | 879.95 |
| Targa 1000..... | 889.95 |
| Pentium Overdrive Chips..... | CALL |
| Adaptec 2940 UW..... | 299.95 |
| Sound Blaster AWE 32..... | 229.95 |

PC Software

| | |
|-----------------------------|----------|
| Netscape 3.0..... | 44.95 |
| Microsoft Office 95..... | CALL |
| Clean Sweep 95..... | 39.95 |
| Windows NT 4.0..... | 294.95 |
| Windows NT 4.0 Upgrade..... | In-Stock |
| Zip-It..... | 41.95 |
| Norton Utilities..... | 82.95 |
| PC: Anti-Virus..... | CALL |

3D/Multimedia

| | |
|------------------------------|--------|
| World Construction Set..... | 549.95 |
| Photoshop 4.0..... | CALL |
| Gear..... | CALL |
| Poly Form..... | 144.95 |
| Fractal Design Painter..... | 364.95 |
| Fractal Design Detailer..... | 299.95 |
| Poser..... | 98.95 |
| Mesh Paint..... | 339.95 |
| Animator Studio Pro..... | 439.95 |
| True Space..... | 469.95 |
| Scala MM100..... | 159.95 |
| Sound Forge 4.0..... | 294.95 |
| Director 5.0..... | 824.95 |
| Win Image Ver. 4.0..... | 254.95 |
| Final Effects..... | CALL |
| Hollywood F/X..... | 549.95 |
| Vista Pro..... | 68.95 |
| 3D Studio Max..... | CALL |
| Video Action NT 4.0..... | CALL |
| Video Action 4.0..... | CALL |

3-D Animator Systems

- Intel Pentium 166 mhz
- 512K Cache/64mb Ram
- Millennium 4mb • Fast SCSI Control
- 2.1 gig HD • 6x CD-Rom
- 16 Bit Sound w/Speakers
- Keyboard & Mouse • NT 4.0

\$2,795⁰⁰

- Intel Pentium 200 mhz
- 256K Cache/128mb Ram
- Fire GL/Fast SCSI II Control
- 4.2 gig HD • 8x CD-Rom
- 16 Bit Sound w/Speakers
- Keyboard & Mouse • NT 4.0

\$4,195⁰⁰

Carrera Computer System

- Dec Alpha @ 333mhz
- 2mb cache/64mb Ram
- 1.44mb Floppy/2.1 gig HD/6x CD-Rom
- Millennium 2mb/16 Bit Sound Card
- Keyboard & Mouse
- Full Tower w/400 Watt Power
- Window NT 4.0 CD

\$5,650⁰⁰

- Dec Alpha @ 366mhz
- 2mb cache/128mb Ram
- 1.44mb Floppy/4.2 gig HD/6x CD-Rom
- Millennium 4mb/16 Bit Sound Card
- Keyboard & Mouse
- Full Tower w/400 W P.S.
- Window NT 4.0 CD

\$7,650⁰⁰

- Dec Alpha @ 433mhz
- 1mb cache 9NS/256mb Ram
- 1.44mb Floppy/4.2 gig HD/6x CD-Rom
- Fire GL 8mb D-Ram/2mb V-Ram
- Full Tower w/400 W P.S.
- Window NT 4.0 CD

CALL

*Save \$50. on Lightwave 5.0
with any PC Purchase!
*Save \$100. on Lightwave 5.0
off any Alpha System!

LIGHTWAVE 3D

| | |
|-------------------------------|---------|
| Lightwave 3-D 5.0..... | 1025.95 |
| Lightwave 3-D 5.0 Upgr..... | 409.95 |
| Lightwave Tutorial Taper..... | CALL |

Plug-Ins & Add-Ons

| | |
|------------------------------|---------------|
| Logo Wizard..... | 199.95 |
| Scene Machine..... | 189.95 |
| Macro Form Amg/Intel..... | CALL |
| Sparks Amg/Intel..... | 114.95/174.95 |
| Fiber Factory Amg/Intel..... | 68.95/98.95 |
| Relief..... | 162.95 |
| Pro Pak I..... | 239.95 |
| DAB..... | 84.95 |
| Particle Type..... | 89.95 |
| Wave Filter 1.1..... | 136.95 |
| Wave Filter +..... | 394.95 |
| WaveNet Pro..... | 254.95 |
| Path Finder V2.0..... | 89.95 |
| Lock & Key..... | 154.95 |
| Particle Storm..... | 239.95 |
| Impact Amg/Intel..... | 194.95/302.95 |
| Shopper..... | 109.95 |
| Verti Lector..... | 88.95 |
| Shader Man..... | 149.95 |

We also carry Alpha versions, some
above listings, call for pricing.

3-D Objects & Texture

| | |
|-----------------------------------|--------|
| Moving Textures 100..... | 199.95 |
| Moving Textures 200..... | 224.95 |
| Corporate Backgrounds..... | 109.95 |
| Snap Maps I & II.....each | 119.95 |
| Solar System Kit..... | 89.95 |
| Surface Pro CD..... | 68.95 |
| David's House..... | CALL |
| Ultimate 3D Objects..... | 129.95 |
| Accuris: 18 Perfect People..... | 229.95 |
| Accuris Lightwave Translator..... | 28.95 |
| Light Rom #4..... | 41.95 |
| D.E.M. Rom..... | CALL |
| 3,000 Textures..... | CALL |
| Multi-Media Backdrops..... | 39.95 |
| Interior Design CD..... | 134.95 |
| Humanoid V2.0..... | CALL |
| Plaid Companion..... | CALL |

DIGITAL

Processing Systems



| | |
|--------------------------------|----------|
| DPS the IV..... | 794.95 |
| DPS V-Scope..... | 789.95 |
| DPS Remote..... | 232.95 |
| DPS Perception..... | 1585.95 |
| DPS Perception Audio Card..... | In-Stock |
| DPS Live Capture Option..... | CALL |
| DPS Perception Combo..... | CALL |
| DPS F/X Card..... | 825.00 |
| DPS Par-Amiga/PC..... | 1599.95 |
| Speed Razor Mach 3.5..... | CALL |
| Razor Pro..... | In-Stock |

January Specials!

Type Smith \$51⁰⁰

Amiga DOS 3.1 Upgrade Kits **CALL**

Amiga Internet Combo

Termite TCP & I-Browse **\$91⁰⁰**

NEC

4x CD-Rom Internal **\$94⁰⁰**

Control Tower

\$122⁹⁵

Scence Machine Intel

\$174⁹⁵

8x CD-Rom SCSI \$194⁹⁵

Yamaha CD-R 4x Read 2x write

external w/Mastering ISO

\$649⁹⁵

Yamaha CD-R 4x Read 4x write

external w/Mastering ISO

\$1019⁹⁵

Tri-State Camera & Video...LOWEST LEGITIMATE PRICES GUARANTEED!

FOR INFORMATION CIRCLE 128

TO ORDER CALL 800-544-6599
 MON.-FRI. 8-6, SAT. 9-5 CST
 INFORMATION 414-548-8120 • FAX 414-548-8130
 TECH SUPPORT/RMAS 414-548-8159 • 2-6 PM, Mon-Fri.

NEWSFLASH!

www.sharbor.com

The place to be for the latest news, coolest products and hottest prices.

CHECK US OUT TODAY!



Specialists in desktop video since 1987



CONSULTRON

CrossMAC69.00
 CrossDOS 6.0 Pro39.00



**Information is Power
and the Power is here!**



Termite TCP provides easy access to the Internet. Finally, it won't take a rocket scientist to configure and then be up and running on the Information Super Highway! With an Internet PPP account, you'll be ready to explore.

iBrowse makes surfing the NET a breeze and puts a wealth of information at your fingertips with the click of your mouse button. This fully-featured World-Wide WEB browser supports HTML 1-3 as well as NetScape™ extensions.

Termite TCP/iBrowse Bundle89.00

Cinema 4D offers professional ray-tracing and animation for your Amiga. It's easy to use and packed with features: multi-tasking editor, real-time interactive modeling, object manipulation, flexible tools, and special effects.

Cinema 4D w/MagicLINK239.00

MONUMENT DESIGNER

The new standard in titling, developed and tested in professional studios. Offers the widest margin of possibilities for the user, from graphic design to picture composition249.99



The ONLY Amiga image processing software you'll ever need!

Image F/X 2.6225.00



DIGITAL
 PROCESSING SYSTEMS INC.

Perception NTSC PC1595.00
 Perception Capture Card859.00
 Perception/Capture Card Bundle2369.00

**HOT DEAL - Save \$85.00
 when you buy both!**

Perception A4V1229.00
 Perception F/X Accel799.00
 Perception Riser PCI75.00
 Perception/Video Action Pro Bundle2569.00
 PAR, Amiga1549.00
 Personal TBC IV795.00
 Personal TBC IV Plus1229.00
 Personal V Scope789.00

HOT AMIGA PRODUCTS

AWeb-II45.00
 Cyberstorm 060 MarkII899.00
 Diavolo Pro/Standard69/98.00
 DOS 3.1 500/2000119.00
 Omega Zip/Jaz Tools25.00
 Kara Collection, CD79.00
 Octamed Soundstudio35.00
 Studio Printer II V2.1284.00
 YBT/VideoGems139.00

REMOVEABLE MEDIA

HARDDRIVES /
 Iomega JAZ Drive 1GB SCSI-2 Int/Ext395/499.00
 Iomega ZIP Drive 100MB SCSI Ext199.99
 Micropolis 1991AV 8.9GB FSCSI 5.25"Call
 Micropolis 3243AV 4.3GB SCSI 3.5"Call
 Micropolis 4221AV 2.1GB SCSI 3.5"Call
 Syquest EZ FlyerCall
 Seagate ST19171N 9GB SCSI-II "Ultra"Call

MODEMS



Supra Corporation



Robotics

SupraExpress 33.6 V.34+ Ext149.00
 SupraFAX 33.6 V.34 Ext199.00
 SupraSonic 33.6 V+ Ext269.00
 Sportster 14.4 Ext FAX115.00
 Sportster 28.8 Vi.34 Ext FAX189.00
 Sportster 33.6 V34 Ext FAX180.00



Check out these new lower prices!

VLab Motion - The first truly affordable, real-time JPEG non-linear editor. It will turn your Amiga into a fully digital editing system, at a fraction of the cost of a Toaster/Flyer. With fewer hardware requirements, you can create the videos that you have always dreamed of, but never thought you could afford. VLab is a single board video solution for your Amiga1499.00

Toccata 16 - The only 16 bit stereo sound card available for your Amiga system. It comes with its own non-linear editing software (Samplitude), to manipulate, mix, rearrange, or apply effects to the digital samples. Work with up to 4 tracks per project and cut, copy, paste, shift and mix to create the desired playback. When used with the VLab Motion, Toccata 16 can digitize the corresponding audio for seamless editing and playback429.00

VLab Y/C Digitizer - Provides you with the ability to capture 24bit, full screen stills at 60fps. It comes with two composite and one SVHS/Hi-8 Y/C inputs. **The Internal version** also has Interleave Frame Recording capability, allowing you to record 60fps video sequences. When used with the Toccata 16, the IFR option can also sample the accompanying audio.

VLab Y/C Internal429.00
 VLab Y/C External475.00

Retina Z3 4mb w/Encoder - Blazingly fast display card up to 10 times faster than an original Amiga 4000 card. Create and play 8/16/32bit animations; flicker-free; video resolutions of 2400 x 1200 possible. Includes XIPaint 24bit RT software and bundled with Encoder to add composite and Y/C output to the Retina489.00

Dale Luck's Boing! Mouse

Top-of-the-line optical mouse with precision handling74.99



VeriLactic
 Special Effects Plug-in for LightWave 3D

95.00

AMIGA

Amiga 1200 Magic Pack - Includes a built-in hard drive and tons of free software (ScalaMM300, Photogenics, Personal Paint). This is a great home computer and multimedia machine. Now in! Order yours todayCall

Amiga 4000 Tower - Full height tower unit includes 25MHz 68040 processor, 4MB FAST RAM (easily expandable to 16MB) and 2MB CHIP RAM, SCSI-II integrated controller, and 1GB SCSI hard drive. 200 watt UL power supply, twin fans, tons of expansion slots and bays, with lots of great software included. Call for pricing!

NewTek INCORPORATED

LIGHTWAVE 3D RELATED PRODUCTS

| | |
|-----------------------------------|--------|
| 3D Objects CD | 15.50 |
| Audio Thunder | 69.99 |
| Batch Factory, Amiga | 59.99 |
| Co-Pilot Audio, Amiga | 99.00 |
| Co-Pilot Video, Amiga | 99.00 |
| Control Tower | 199.00 |
| Decision Maker | 299.00 |
| Fiber Factory, Amiga | 67.99 |
| Fiber Factory, PC | 95.99 |
| Flite Gear 4000 | 160.00 |
| Fly Effects, Amiga | 145.00 |
| F/X Kit for Lightwave | 29.00 |
| F/X Kit, Addendum 5 | 19.00 |
| Humanoid PC/Amiga | 160.00 |
| ImageMaster RT, Amiga | 79.95 |
| Light ROM Vol. 3 CD | 34.99 |
| MacroForm, Amiga | 229.00 |
| MacroForm, DEC/Intel | 279.00 |
| MeshPaint 3D DEC | 489.00 |
| MeshPaint 3D 1.5 Intel | 425.00 |
| Motion Master I, II, Amiga | 96.00 |
| Power Macros, Amiga | 89.00 |
| Pro Wipes 3.0 Vol II, Amiga | 65.00 |
| Radar 4000, Amiga | 299.00 |
| Road Signs | 49.00 |
| Scene Machine CD, PC | 169.00 |
| Solar System Kit | 93.00 |
| Sparks 1.02 CD Intel | 169.00 |
| Sparks DEC Alpha | 199.99 |
| Sparks V 1.02, Amiga | 169.00 |
| Surface Pro/ LW | 79.00 |
| Universal 3D CD | 120.00 |
| Wave Filter, Intel | 149.00 |
| Wave Filter Net+, Dec Alpha | 449.00 |
| Wave Maker 2.0, Amiga | 179.99 |
| World Construction Set | CALL |

Dynamic Realities

| | |
|--------------------------------|------------|
| Impact, Amiga | 195.00 |
| Impact, Intel/DEC | 299/425.00 |
| Lock & Key, DEC Alpha | 289.00 |
| Lock & Key, Intel/Amiga | 189.00 |
| Particle Storm CD, DEC | 299.00 |
| Particle Storm CD, Intel | 255.00 |
| Shader Man, Intel/DEC | 189/289.00 |

NewTek INCORPORATED

| | |
|--|---------|
| LightWave 5.0 CD, Amiga | Call |
| LightWave 5.0, DEC Alpha | Call |
| LightWave 5.0 Intel | 1098.00 |
| LightWave Upgrade 4-5.0 Amiga | 289.00 |
| DEC Alpha | 489.00 |
| Intel | 449.00 |
| Toaster 4.1d Upgrade CD | 489.00 |

We have gov't/educational
pricing available too!

Thank You for Your Business in
1996. Best Wishes for the Holiday
Season & New Year.

Safe Harbor Staff

PC PRODUCTS

| | |
|---|---------|
| 3000 JPEG Textures CD | 26.00 |
| Adaptec 2940 UW | 299.00 |
| Adobe Premiere 4.2 | 525.00 |
| AudioTRIX Pro | 279.00 |
| AV Master, Fast | Call |
| Bravado 1000 PCI | Call |
| Broadway | Call |
| Cinematte | 188.00 |
| Crystal 3D Vortex | 159.00 |
| Final Effects | 139.00 |
| Fractal Painter 4.0 | 355.00 |
| Hollywood F/X Intel | 599.00 |
| Hollywood F/X DEC Alpha | 899.00 |
| Imagine/ Windows | 1495.00 |
| Martin Hash's 3-D Animation Master Pro | 550.00 |
| Martin Hash's 3-D Animation | 185.00 |
| Media Paint | 429.00 |
| Media Studio Pro 2.5 | 299.00 |
| Millennium 2MB PCI | 199.00 |
| Millennium 4MB PCI | 276.00 |
| Ray Dream Studio | 289.00 |
| Scala MM100 | 239.00 |
| SoundBlaster AWE 32 | 225.00 |
| Take 32 CD | 89.00 |
| Tahiti, Turtle Beach | 269.00 |
| Tahiti, Turtle Beach NT Drivers | 68.00 |
| trueSpace2 2.0 | 479.99 |
| Video Action NT/ 3D Effects Bundle | 859.00 |
| Video Action NT 4.0 | 799.00 |
| Video Action NT 4.0 Bundle | 999.00 |
| Windows NT Workstation 4.0 | 299.00 |
| WinImages Release 4 CD | 279.00 |

SYNDESSIS CORPORATION

| | |
|------------------------------|--------|
| 3D ROM Vol. 1 or 2 CD | 69.00 |
| 3D ROM Vol. 3 CD | CALL |
| InterchangePlus, Amiga | 95.00 |
| Interchange, PC | 349.00 |
| Interchange Bundle, PC | 385.00 |
| Megahedron CD | 89.00 |

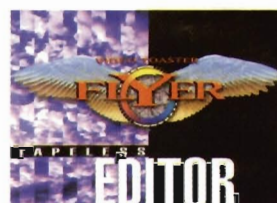


SONIC FOUNDRY

| | |
|---|--------|
| Sound Forge 4.0 | 299.00 |
| Sound Forge XP | 92.00 |
| Plug-In Pack - Includes Noise Reduction Plug-In, Batch Conversion and Spectrum Analysis Plug-In | 299.00 |



Video Toaster - NewTek's
broadcast studio in a box! Featuring
a real-time 4 input switcher, digital
transitions, professional character
generator, 24-bit paint program and
Lightwave 3D. The Toaster offers an
all-in-one solution to television
production2150.00



Video Toaster Flyer - NewTek's
incredible non-linear broadcast
quality video editing system
exclusively for the Amiga. Digital-
quality, 60 fields/second recording
and playback. Output digitized video
to Lightwave 3D, perform real-time
transitions with the Video Toaster
4000 card3999.00

dkb

| | |
|----------------------------|---------|
| Accel, Cobra 33 MHz | 159.00 |
| Accel, Wildfire 2000 | 1339.00 |
| SCSI-II HC Rapidfire | 149.00 |
| SCSI Option Ferret | 89.00 |
| Spitfire SCSI-II | 89.00 |
| MegaChip 2000 | 199.00 |
| MultiStart II | 26.00 |
| 1202 Memory Board | 88.00 |
| 3128 Board | 195.00 |

Micro R. & D.

| | |
|--------------------------|--------|
| Directory Opus 5.5 | 89.00 |
| Easy Ledgers 2 | 145.00 |
| GP FAX Class 1 & 2 | 47.99 |
| Gigamem 3.12 | 59.00 |
| Mouse, WIZ 560 dpi | 29.00 |
| Power Supply 500 | 89.99 |
| Power Supply 2000 | 155.99 |
| Speakers, 60 watt | 29.00 |

TOSHIBA

TIMM 20-Inch Monitor -

Finally! A 20" monitor destined for use
on the Amiga! Sharp display,
incredible graphics - plus S-VHS and
composite video inputs; stereo audio,
181 channel tuner. This is the ultimate
computer monitor, video monitor, and
television all in one! Perfect for the
Amiga or desktop video! Call for our
new low price.



NEW LOW
PRICE!

Safe Harbor is dedicated to providing quality desktop video products,
technical expertise, and courteous, personalized service to our customers to
maintain our impeccable reputation and total customer satisfaction.

Terms: POs accepted from schools
and government agencies • Personal
checks require 7 days to clear •
Defective products replaced
promptly. RMA number required!
(call 414-548-8159) for all
merchandise returns. Returns:
not accepted after 15 days.
Returned products must be in
original packaging, postage
prepaid. Opened software not
returnable. Shipping charges
not refundable. Non-defective
returns subject to a 15%
restocking fee • Not responsible for
typos. Prices subject to change.



W226 N900 EASTMOUND DR., WAUKESHA, WI 53186

Why does MICROSEARCH have so many clients?

Access Houston • Amoco Oil • Allied Signal • Baker Performance Chemicals • Compaq
 Channel 1 Production • City of Houston • City of Waco • Dow Chemicals • EXXON
 Houston Art Institute • Koka Productions • KPRC/TV • Lakewood Church • Legal Media
 Center • MW Kellogg • McNee Communication • Pasadena ISD • Region VII Education
 Service Center • Rockwell • Shell Oil • Spring ISD • Sharpstown High School • Texas
 A&M University • TV Communication • University of Houston • UTMD Anderson Cancer Center

Great Price. Great Support.
 In Business since 1983.

MicroSearch specializes in providing turnkey computer systems for **Digital Video Editing** and **3D Animation**. We are a full service company that provides systems design and training. We combine technical knowledge and personal attention to give you the best possible service with competitive pricing. We work as a team: sales executives, technical staff, and customer service. Our whole company is here to meet the needs of each individual customer.

If you are looking for a computer store, you have many to choose from; but if you are looking for a **dependable** and **knowledgeable** company that understands both computers and video, **MicroSearch** is your answer.

We buy and sell Pre-owned Video Toaster Systems.

We also trade your Video Toaster for Pentium Systems.

Call for our turnkey 3D Animation and Non-Linear-Editing Workstations.

Pentium, Pentium Pro and Alpha systems are available.

 **MICROSEARCH**

9000 S.W. Freeway, #326 Houston, TX 77074
 Voice: (713) 988-2818 Fax: (713) 995-4994
 Website: <http://www.microsearch.com>

Authorized Dealers for:

NEWTek
 INCORPORATED

 **Autodesk.**

 **PLAY**

 **FAST**
 The Art of Digital Video.

 **Alladin**

 **SPEED-RAZOR**

 **DESKSTATION TECHNOLOGY**

VIDEO TOASTER

 **FLYER**

LIGHTWAVE 3D

3D Studio Max

SOFTIMAGE 3D

AV MASTER™

 **GENIEPLUS**

 **PERCEPTION VR**
 VIDEO RECORDER

 **INTERGRAPH**
 COMPUTER SYSTEMS

 **TRUEVISION™**

MICROPOLIS™

The Drive For Excellence



MicroPolis is the industry leader in creating high performance drives for AV applications. Fast spindle speeds combined with high capacity provide the perfect solution when working with massive files. The 4421 and 4221 provide exceptional AV capabilities in a low-profile, "space saving" package. The 3243 AV is ideal in critical AV applications requiring higher uninterrupted data rates. The 1991 AV's advanced SCSI-2 features give you smooth, jerk-free video and audio playback.

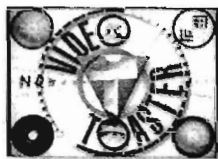
| Model | Capacity | Avg. Seek | Spindle Speed | Interface |
|---------|----------|-----------|---------------|-------------|
| 4421AV | 2.05GB | 8.8ms | 5400rpm | Fast SCSI-2 |
| 4221AV* | 2.05GB | 8.9ms | 7200rpm | Fast SCSI-2 |
| 3243AV* | 4.29GB | 8.9ms | 7200rpm | Fast SCSI-2 |
| 1991AV* | 9.09GB | 12ms | 5400rpm | Fast SCSI-2 |

* Also available in a Wide SCSI configuration.

EDIT►BAY►MUSIC®SPECIALIZING IN NON-LINEAR
VIDEO/AUDIO EDITING SYSTEMS**NEWTEK**
INCORPORATED**DIGITAL****LIGHTWAVE 3D**VIDEO TOASTER/FLYER
SALES • SERVICE • SUPPORT*Limited Specials*

Tocatta Hard Disk Recorder \$99.00

Sunrize Sound Switch \$99.00

LOS ANGELES, CA
(800) 214-MUSIC
(800) 214-6874**Global COMPUTER & VIDEO
CONSORTIUM****Global****SOUTHERN
CALIFORNIA'S
NEWTEK DEALER**Specialist in Non-linear
Editing SystemsAmiga Computer Systems
Video Toaster Flyer
Lightwave 3DPerception Video Recorder
TrueVision (Taraga Board)
Hard Drives - CD Roms
USRobotics ModemsPollywell Computer
Systems

Software

Service-Sales-Training

Global Computer &
Video Consortium
3554 Kettner Blvd
San Diego, Ca
(619) 289-9946
FAX (619) 298-0117**T.S. Computers****818/760-4445**11300 Hartland St.
No. Hollywood, CA 91605

SALES SERVICE SUPPORT SYSTEMS SPECIALISTS

NEWTEK
INCORPORATEDAsk us about
Toaster rentals!**FLYER****Raptor****DIGITAL****AMILINK**

AUTHORIZED AMILINK DEALER

We do it all!Authorized Dealer
Gold Service Center
Commodore
AMIGA**Raptor**
"World's fastest WindowsNT Systems"**JVC**
PROFESSIONAL
Video Products

NewTek "Top Ten" Dealer

FLYER**INTERGRAPH**
COMPUTER SYSTEMS**SOFTIMAGE®****PERCEPTION**
VIDEO RECORDER**RAZOR™**
professional**LIGHTWAVE 3D****Internet Access:**

info@mt-inc.com

sales@mt-inc.com

http://www.mt-inc.com

A few of our products & services:

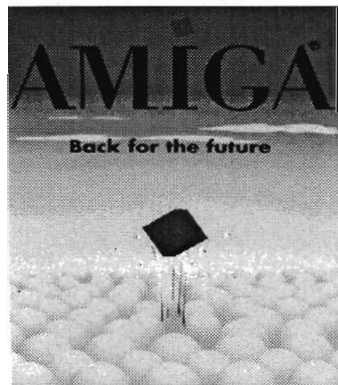
- Raptor3 DEC Alpha Workstations
- Intergraph Workstations
- Pentium Workstations
- Non-Linear Editing Systems
- Video Toaster & Flyer
- JVC Cameras, Decks, Monitors
- Amiga Systems
- SOFTIMAGE & Digital Studio
- Lightwave 3D
- Speed Razor - Video Action NT
- Full Line of Software & Peripherals
- Animation Rendering Service
- Networking support
- On-site training
- On-site service
- And lots, lots more!

MicroTech
Solutions, Inc.17W745 Butterfield Road, Suite F
Oakbrook Terrace, IL 60181
Voice: 630-495-4069 Fax: 630-495-4245

SOFTWARE-GAMES-A1200-A4000T-ALL AMIGAS-CALL!

MONITORS-VIDEO CARDS-TBC-GENLOCKS

Your AMIGA Specialist!

Authorized Amiga Service Center**Complete Video Toaster / Flyer Systems. Ready to Go!****Hardware & Software:**

Phase V graphic cards
and accelerators
DPS peripherals
LightWave 5.0, Intel,
DecAlpha, LW plug-ins
LW Tutorials
liyama monitors 17"
Villagetronic products
SuperGen SX Bundle
SUPRA modems
Web Surfer/Internet
We've Got It!

**CALL: (619) 589-9455 FAX (619) 589-5230**

The Lively Computer, 8314 Parkway Dr, La Mesa, CA 91942

tlively@connectnet.com or <http://www.iworks.com/tlc/>**DIGITAL A/V EDITING SYSTEMS-MULTIMEDIA-NETWORKING**

HARDWARE-REPAIR-UPGRADES-MODEMS

Atlanta, Georgia

VIDEO TOASTER

FLYER

We have the lowest prices and best service-- Call for a personal consultation. If you are in our area, come and try out our Flyer suites in person. Call for details!

FAST, DEPENDABLE REPAIRS AND UPGRADES

Our technicians have been in the business for years and can repair any Amiga/Toaster/Flyer the same day we receive it. We know which components work together and which don't, so upgrades are fast and trouble-free. Most items are in stock, available for exchange, including A4000/3000/2000 PCBs, all components, and loaner Toasters. Call for a consultation today!

RISC RENDERING POWER!

Call for pricing on your rendering projects. High quality work done on a hourly, daily or weekly basis, with output to all formats.

ACS Computer & Video
5344 Jimmy Carter Blvd.
Norcross, GA 30093

Ph. (770) 263-9190 Fax: (770) 263-7852
Toll Free: (800) 962-4489 (Orders Only)

VIDEO TOASTER USER VIDEO TOASTER USER VIDEO TOASTER
USER VIDEO TOASTER USER VIDEO TOASTER USER VIDEO TOAST-
ER VIDEO TOASTER USER VIDEO TOASTER USER VIDEO
TOASTER USER VIDEO TOASTER USER VIDEO TOASTER USER
VIDEO TOASTER USER VIDEO TOASTER USER VIDEO TOASTER
USER VIDEO TOASTER USER VIDEO TOASTER USER VIDEO TOAST-
ER VIDEO TOASTER USER VIDEO TOASTER USER VIDEO TOASTER
TOASTER USER VIDEO TOASTER USER VIDEO TOASTER USER
VIDEO TOASTER USER VIDEO TOASTER USER VIDEO TOASTER
USER VIDEO TOASTER USER VIDEO TOASTER USER VIDEO TOAST-
ER USER VIDEO TOASTER USER VIDEO TOASTER USER VIDEO

DEALER**MARKETPLACE****CLASSIFIED**

contact Dina Berrigan
610-954-0553

VIDEO TOASTER USER VIDEO TOASTER USER VIDEO TOASTER
USER VIDEO TOASTER USER VIDEO TOASTER USER VIDEO TOAST-
ER USER VIDEO TOASTER USER VIDEO TOASTER USER VIDEO
VIDEO TOASTER USER VIDEO TOASTER USER VIDEO TOASTER
USER VIDEO TOASTER USER VIDEO TOASTER USER VIDEO TOAST-
ER USER VIDEO TOAST-ER VIDEO TOASTER USER VIDEO
TOASTER USER VIDEO TOASTER USER VIDEO TOASTER USER
VIDEO TOASTER USER VIDEO TOASTER USER VIDEO TOASTER
USER VIDEO TOASTER USER VIDEO TOASTER USER VIDEO

Voices

for Commercials and Narratives.

45 of the country's best voices are available at Archer Productions!

You direct by phone patch!
Audio delivered on DAT or
live via ISDN lines!

Call today for a FREE demo CD!



Archer
Productions, Inc.

1-800/897-3203

| RENDERING | FOR SALE |
|--|--|
| <p>FASTER THAN RAPTOR PLUS! DEC ALPHA SPEED = LOWER COST! BETA-SP, 1", 3/4-SP, S-VHS, Hi8 ANY SIZE—FAST TURNAROUND WFMZ-TV/MBC Teleproductions Ask for Rick 800-232-3024</p> | <p>WE SELL/BUY/REPAIR ALL AMIGAS • 4000 Towers, Desktops • Toaster/Flyer/PAR/TBC • 3000's, 2000's, 1200's • Complete Video Systems • RAM & Hard Drives Available HARDDRIVERS CO. 407 453-5805 greenl@iu.net</p> |
| MISCELLANEOUS | |
| <p>— CLOSE OUT — Mastering Toaster Technology The complete guide to mastering the Video Toaster \$9.95 + \$4.95 S/H (U.S.) 402-496-7361</p> | <p>Answers; Toaster/Flyer 4.1 Tips & Tricks VHS tape \$29.95+ \$5.00 S/H toll free 800 315 0777 First Choice Productions</p> |
| | <p>Custom 3D Models & Animations LOW-COST HIGH-QUALITY Virtual Prototyping Services 814-757-4540</p> |

MARKETPLACE

VIDEO TOASTER & FLYER SYSTEMS
BUY - SELL - TRADE
Refurbished
AMIGA COMPUTERS
Amiga Parts & Repairs
 Free video accessory catalog & bulk videotape wholesale price list (includes labels and sleeves)
 Call or fax us with your list of items to sell, trade, or purchase.
(610) 372-1010
 Fax (610) 378-9606
Electronic Connection
 635 Penn Ave. West Reading, PA 19611
 Our 13th Year in Business!

35mm - 4000 LINE SLIDES or NEGATIVES
with Prints!
 • Ultra Sharp Edge to Edge
 • IFF, IFF24, HAM, HAM8, DCTV, EPS
 • Framestores, PrintRes & Postscript
 • DOS & MAC Files Imaged Also
 • As Low as \$5.95 per File!
 • 24 Hour BBS @ 715 856-5496

 **CALL: 715 856-5627**
 GRAPHIC IMPRESSIONS
 POB 254
 Wausaukee, WI 54177

Free!
 America's largest (320 pgs) and most complete supply and accessory catalog in the entire industry contains thousands of exclusive and hard-to-find items for all levels of broadcast video, pro-audio, multimedia and audio visual production.
 Call or write now for your free copy!

MARKERTEK®
 VIDEO SUPPLY

4 High St. • Saugerties, NY (USA) 12477
 800-522-2025 • Fax 914-246-1757
 Web: <http://www.markertek.com/>

 **The Wedding Collection**
 animation library

Two coordinated volumes of elegant, animated backgrounds, titles and frames
 For The Professional Wedding Videographer

"..... a valuable addition to your video production toolbox."

Volume 1: gold and white
 Volume 2: blue and white

SVHS/Hi8 \$69.95 ea Beta SP \$149.95 ea

 **Call For Demo!**
 516.673.7635
 Lightstorm Computer Animation

"The Music Bakery is the only library I use or recommend, period. The quality of your work is so far above the other libraries that I've set them entirely aside."
 -Jim Yager, President,
 Yager Media, Ft Worth, TX

QUALITY

THE MUSIC BAKERY
 "The Best Value in High Quality Production Music"
 No Risk Offer: Call 1-800-229-0313 for a FREE CD!

LAST WORD

Lights, Camera, Action

Computers—The Weak Link in 3D Animation

by Mojo



A few years before the desktop film and video revolution began, a similar event transpired in another field: Music. Drum machines, sequencers, sampling and Macs allowed virtually anybody to create full symphonies without ever hiring a single musician or renting a minute of studio time. It was a major revolution, not just for technology, but for the entire music business. Long time musicians and artists were scared to death that all these kids and their Macs would put them out of a job forever. But it didn't happen. Most of the music that was produced *sounded* like it came from a bunch of inexperienced kids. Everyone soon came to understand that simply having a high-tech music studio at your hands did not make you a musician. So, in the long run, the best drum machine programmers turned out to be actual drummers and the best sequencer artists turned out to be musicians.

The Song Remains the Same

A few years later, the Video Toaster was released and the whole thing started over again—this time, however, technology was sharpening its talons and preparing to swoon down over Tinsel Town. Software like LightWave 3D put professional quality tools in the hands of anyone who cared to own it, leveling the playing field between *us* and *them* forever. But guess what? The same damn thing that happened to the music biz is happening to us. All these people are buying computers like there's no tomorrow and churning out animation that makes us *wish* there was no tomorrow.

At Foundation we still get demo reel after demo reel that makes us grieve for humanity. Many of them come from people who say they've spent years working in computer animation; quite a few have college degrees in the field! So what gives? If all these people have been studying computer animation in school and at home for years on end, why do they still suck?

Simple. They're not *musicians*.

Let's take a look at the principals of computer animation—lighting, composition, motion and the basic charter to tell a story visually. Hey, wait a minute, this doesn't sound like computer work at all, it sounds like *filmmaking*! Egads, we're on to something here! All these people sitting behind their PC's and Amigas aren't computer people at all—they're filmmakers! Jeez, maybe somebody should tell them to stop barking up the wrong tree. So I'm tellin' ya!

Do you know *why* people like Ron Thornton are

tops in the computer animation field? It's not because they're computer wizards (Ron can't even install his plug-ins), it's because they're filmmakers who spent years making movies long before they ever touched a mouse. In fact, none of the people at Foundation have any formal training in computer animation at all (nor do any of the people I know at companies like Digital Muse, Area 51, etc.).

These people are good at what they do because they understand the essence of what their job truly is—making movies. Just because the lights, camera and action are digital instead of real doesn't mean the rules are any different.

The profile of the average 3D animator is very much the same. Most of them have long histories of working (and playing) with computers. Many of them are creative types and they eventually discover 3D software. After a short while they become engrossed in it and, before you know it, everything else falls by the wayside and they want to be an animator.

The only problem is they *stink*!

And it's not because they're not dedicated. It's because they're dedicated to the *wrong thing*. Remember, the computer is just a tool—a tool used for making 3D movies. Knowing the ins and outs of every button in LightWave does not make you a good animator (just like knowing how to play a guitar does not make you a good songwriter). Being a good animator means you know how to tell a story through animation. Hell, I hate even using the word *animation* because it makes most people think of cartoons. What we're doing is motion picture storytelling or, once again, making movies.

A lot of people call me at at Foundation looking for advice on how to build a career in 3D. They almost always ask where they should go to school for animation. My answer is always the same: Don't! Find a good film school and start learning the principles of film making. Take classes in cinematography and editing and writing and film theory. Learn how to make movies. When you get home, you can boot up your PC and hone your LightWave skills there (besides, you won't get nearly as much time on the machines at college). If you must, find a film school that also has a computer animation department and *minor* in it. If you're out of college already, take a few evening classes at a good school. Read a few books. Just *learn* it!

You'll be amazed at how ignoring your computer can improve your computer animation skills!

VTU



ImageFX for the Toaster/Flyer!

Video Toaster™ Support

ImageFX's advanced Toaster support not only allows you to capture and display video frames, and to load and save images in the Framestore file format, it also allows you paint **directly** on the Toaster's composite output.

Flyer™ Support

Support provided for loading and saving new Flyer clips so you can add special effects, transitions, and rotoscoping to your Flyer clips.

Lightwave 3D™ Support

Extensive painting tools and Arexx support allows the power user to create hand painted textures, and automatically add special effects to Lightwave rendered scenes.

Blue and Green Screening

Cinematte™ is included with ImageFX to perform digital blue or green screen keys with professional, reproducible, results. More than just simple Chroma-keying, you can actually maintain precise details such as hair, glass, and smoke, and output finished composites or individual elements for use in Lightwave!

Morphing and Warping

CineMorph™, the Amiga's most popular full motion, cinematic quality morphing and warping package, is included at no extra charge.

Wire Removal

Advanced Wireless™ program is included to remove wires, support rigs and even film scratches from your work. Supports key framing and sequence processing as well.

File Format Conversion

Professional support for reading and writing nearly all file formats from a wide range of platforms such as Amiga, PC, Macintosh, Sun, SGI and many more.

Image Processing and Effects

Functions and effects that can create fires, swirls, waves, ripples, sparkles, lightning bolts, motion blurs, electric arcs, distortions, edge detects, mosaics, lens flares, turn your video into paintings and a million other possibilities!

ARexx and Batch Processing

Sophisticated ARexx batch scripts can be run with ImageFX's AutoFX and IMP batch processing utilities. Don't know ARexx? Automatic macro recording is built right in to write your scripts for you! ImageFX is also compatible with Visual Inspiration's Flyer utility, Control Tower, for advanced Flyer interaction.

With ImageFX and your Toaster, or Toaster/Flyer system, you can achieve creative heights you never thought reachable. You'll be able to create video masterpieces impossible to create on any other platform at any price! That's why the magazine **Video Toaster User** said about ImageFX, **"You need this program. Period."**



FOR INFORMATION CIRCLE 144

Nova Design, Inc., 1910 Byrd Avenue., Suite 214, Richmond, VA 23230

Dealer Sales: (804) 282-5868 - Fax: (804) 282-3768 - Customer Support: (804) 282-6528

All registered and unregistered trademarks are the property of their respective owners.

LIGHTWAVE 3D

FIVE POINT ZERO

"LightWave 3D is a true filmmakers' tool."

Anyone who knows filmmaking will feel comfortable with LightWave. It has a logical interface, and the output definitely has that film look."

Ron Thornton

Founder of Foundation Imaging

Creator of Hypernauts

Emmy Award Winning

Visual Effects Supervisor for Babylon 5

Why does the most prolific television effects house in Hollywood choose LightWave 3D? It's simple. Ron Thornton and his crew at Foundation Imaging have a set of guidelines that make their Emmy Award winning facility so successful: *Never compromise on image quality. Always finish the shot on time. Never go over budget.*

With LightWave 3D, image quality is never a question. Six years of collaboration between programmers and filmmakers ensure that LightWave produces the best looking imagery

available from any 3D animation system. Anyone can create stunning 3D animations with LightWave's straightforward interface. For professional animators, that means you can create your shots faster with fewer creative restrictions. And, LightWave's unusually low price means that you'll never go over budget due to software costs. No wonder Foundation Imaging and many others choose LightWave 3D! Shouldn't you?

LIGHTWAVE 3D: THE PROFESSIONALS' CHOICE

NewTek
INCORPORATED

1-800-TOASTER

Windows 95, Windows NT, Silicon Graphics, Inc., IEEC Alpha, MIPS, Amiga.

Outside the U.S.A. call 1-913-228-8000 • FAX 1-913-228-8099

WEB PAGE [HTTP://WWW.NEWTEK.COM](http://WWW.NEWTEK.COM) • ANONYMOUS FTP SITE [FTP.NEWTEK.COM](ftp://NEWTEK.COM)

LightWave 3D is a trademark of NewTek, Inc. DEC Alpha is a trademark of Digital Equipment Corp. MIPS is a trademark of Silicon Graphics, Inc. Windows 95, Windows NT are trademarks of Microsoft, Inc. Design FryeAllen, Inc. © NewTek, Inc. 1995.

