CREATING AUDIO CDs AND CD-ROMs, PAGE 46

# UIDEO TOASTER USER

POWFIFE 3D LightWave 3D INTRAINING VIDEOS

FRAME-UP FRAMEGRABS FOR PHOTOPRINTS

DEEPER INTO INTO TUNEBUILDER MAESTRO IN A BOX

Miller Freeman, Inc. magazine

10
10
10
3878

Toaster and Video Toaster are registered



# TOASTER

Over the past year Club Toaster members have received over 170 Backdrops, 120 Textures, 36 Full Motion Backgrounds, 120 wipes, 17 full resolution animations, 80 sound effects, 60 fully textured Lightwave objects, 2 full length royalty free music scores, and over 100 24-bit brushes. No other Toaster CD collection comes close to Club Toaster.

For Club Toaster Year 2 we have expanded our categories and gathered some of the best content you can find anywhere, at any price. But as always, Club Toaster is only \$9.95 per month.

FOR INFORMATION CIRCLE 108

### **What is Club Toaster?**

Club Toaster is a monthly CD-ROM filled with professional royalty-free Toaster content. Each month you'll find hundreds of megabytes of textures, color wipes, moving backgrounds, animations, fonts, and a whole lot more. Take your video productions to a new level with Club Toaster.



**ANIMATIONS** 

MISIC



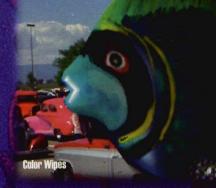
### **What's New in Year Two?**

This year along with major interface changes Club Toaster now includes COLOR FONTS, FULL LENGTH MUSIC, ONLINE HELP, and new FLY EFFECTS rendered effects.

**MOTION BACKS** 

# Can I use Club Toaster with a FLYER?

Along with Toaster content Club Toaster is packed with Flyer content including Flyer Stills, Moving Backgrounds, Animations, Music, and FLY EFFECTS. Each is in HQ-5 Flyer Clip, PAR, and Studio-16 formats and ready-to-go in your next production.



WIPES BACKGROUNDS

SOUND FX



### **Are there any risks?**

No. We're so confident that you'll be completely satisfied we're offering a trial 30-day money-back quarantee.

There's no reason not to try Club Toaster. Join the thousands of other Toaster/Flyer owners who use Club Toaster each week in their productions.

BRUSHES

FLY EFFECTS
COLOR FONTS

DIMENSION technologies

> 1156 West 8th Street Erie, PA 16502 Phone 814-838-2184

CALL TODAY!







1-800-525-2203

\$9.95 is based on a 12 month U.S. subscription excluding shipping and handling. All orders outside U.S. please call (814)-838-2184.

FOR INFORMATION CIRCLE 108

mage



1910 Byrd Avenue, Suite 214 - Richmond, VA 23230

Phone: (804) 282-5868 - Fax: (804) 282-3768 - Customer Support: (804) 282-6528

9 9 6

### FEATURES

26 **MAKING THE GRADE** 

by Rosemary Picado Visit with Howard Gross at the Stephen Leacock Collegiate Institute and discover how the Toaster, Flyer and LightWave 3D are turning out some well-trained graduates.



30 AMIGA TOONS—PREPARE FOR

> by Patrik Beck Learn how to get your Amiga 2D animations ready for primetime.



page 30

36 **POWERED UP** 

by Chris Seiler As if being a Toaster and LightWave 3D guru wasn't cool enough, Chris Seiler is a firefighter too! Check out his explosive new training tape.



page 36

# UNDEO TOASTER USE LightWave 3D TUNEBUILDER

Cover Design by FryeAllen, Incorporated

VIDEO TOASTER USER Vol. 6, No. 10 (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

TOASTER TALK 6

by Joe Tracy

THE FLYER SUITE 14

by Joe Tracy

16 DR. TOASTER

by Dan Ablan

12 TOASTER POST

by Burt Wilson

18 TAMING THE WAVE

by David Hopkins

24 CYBERSPACE

by Geoffrey Williams

**LAST WORD** 86

by Mojo

### OUICKUIEWSZREDIEWS

DEEPER INTO 40 TUNEBUILDER

> by Jim Wulf You didn't think we were done with this cool program, did you? Learn how even the musically challenged can sound like they graduated from Juliard with honors.

### TUTORIALS

46

48

50

58

68

78

81

**ROLL YOUR OWN** 

by Doug Nakakihara Learn how to archive, transfer and distribute digital creations via CD-ROM.



by Brad Hayes Ornament your LightWave 3D objects for added realism.

**BACK TO BACKUPS** 

by George Paramithas Get back to basics by developing good back up habits.

THE GREAT FRAME-UP

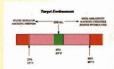
by Brian Hartnell Learn how to maximize your framegrabs for photographic prints-and higher profits!



page 46



page 48



page 50



### **DEPARTMENTS**

**NEW PRODUCTS** 

**TOASTER TIMES** 10

**ADVERTISERS INDEX** 

**DEALER SHOWCASE** 

MARKETPLACE

**CLASSIFIEDS** 



page 8

# UIDEO TOASTER US

SNEAK PREVIEW NOVEMBER ISSUE

Bringing the Illustrated Classics to Video

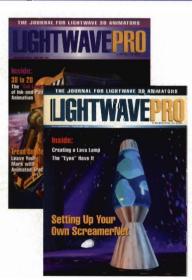
Tuning Up Your Flyer

**Starting Your Own Animation Business Video Review** 

And lots more

THE ONLY NEWSLETTER DEDICATED TO

### LightWave 3D° Animation



Subscribe now to **LIGHTWAVEPRO** newsletter and save 50% off the cover price - that's one year

(12 months) for \$48. Send your check to: LIGHTWAVEPRO

P.O. Box 54240 Boulder, CO 80323-4240

Or simply call.

.800.274.212

For Canada and Mexico, add \$12. All other countries add \$40. All foreign orders must be prepaid in U.S. funds. Check, money order, MosterCard/VISA accepted. Telephone 303.678.0439.

### YOUR GUIDE TO VIDED FX/LIGHTWAVE 30/TV GRAPHICS

**PUBLISHING DIRECTOR** 

Michael D. Kornet

EDITORIAL

EDITOR IN CHIEF Joe Tracy **EXECUTIVE EDITOR** Dave Madden Rosemary Picado MANAGING EDITOR

CONTRIBUTING EDITORS John Gross, James Hebert, David Hopkins, Frank Kelly, Mojo, Geoffrey Williams, Burt Wilson and Dan Ablan.

CONTRIBUTING WRITERS

Patrik Beck, Chris Seiler, Jim Wulf, George Poramithas, Brad Hayes, Doug Nakakihora, Som Kanter, and Brian Hartnell.

### ART AND PRODUCTION

ART DIRECTION & DESIGN ART/PRODUCTION COORDINATOR

FryeAllen Inc. Tarita Whittingham

CIRCULATION

ASSOCIATE CIRCULATION DIRECTOR **NEWSSTAND SALES & MARKETING MANAGER** CIRCULATION MANAGER **NEWSSTAND MANAGER** 

Perry Fatos Scott Dunayer Fronk Ho Gregg A. Mason Paulette Johnson Rosorio Perez

MARKETING

MARKETING MANAGER PROJECTS MANAGER COMMUNICATIONS DESIGNER PUBLIC RELATIONS MANAGER **EVENTS COORDINATOR** 

FULFILLMENT ASST. MGR.

CIRCULATION ASSISTANT

Dehorah Horowitz Scott Nelson Ron Lucos Chandra Lynn Ann Pulley

### **FINANCE AND ADMINISTRATION**

BUSINESS MANAGER REPRINT COORDINATOR

Mack Coge Peggi Clopham

Miller Freeman

A United News & Media publication Marshall W Freeman

EVP/COO SENIOR VICE PRESIDENT /CFO

Don Pazour Warren "Andy" Ambrose

SENIOR VICE PRESDIENTS

Darrell Denny, David Nussbaum, Regina Ridley, Ted Bohr,

Galen Poss, Wini D. Ragus Pat Cameron (Entertoinment Technology

Group), Andrew Mickus (Production), Jerry Okabe (Circulation)

### HOW TO CONTACT VIDEO TOASTER USER

SUBSCRIPTIONS Mainland USA

VICE PRESIDENTS

All other locations (303) 678-0439 A 12-issue subscription to Video Toaster User is \$36 (US\$48 for Canado or Mexico, US\$76 overseas). To subscribe with a VISA or MasterCard, coll (800) 274-2430. Send check or money order to Video Toaster User, P.O. 8ox 54251, Boulder CO, 80322-4251.

**RACK ISSUES OF VIDEO TOASTER USER** 

Mainland USA All other locations

(800) 444-4881 (913) 841-1631 Fax (913) 841-2624

Write to Video Toaster User, Attn: Bock Issues, \$10/issue (\$10 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, 66046-2700.

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 YTU

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

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

Miller Freeman Inc.

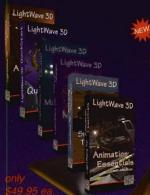
411 Barel Ave. San Mateo, CA 94402 Phone: (415) 358-9500 Fax: (415) 358-9966

Note Teast or their is a patient and Miller Freein on, Inc. Value Teaster User is on ingle enter it pound not affiliage, with New York Teaster and Teaster are a teaster to be the service of New York, Inc. Miller see man, Inc., it's employed, regise entities and teatments are not responsible for any import properly among resulting from the application of any information in View Constant Lear magazine. Printed in the United States of Primarie; Gusyright © 1996 Willer Freeman, Inc. All rights reserved.

PRINTED IN THE USA

### LEARN FROM THE EXPERTS!

### Take a Private Lesson With These Hot New Videos



### 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



### 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.



Digital Cinematography

Spacecraft Surfacing Techniques • Cinematic Visual Effects





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



### 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

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





Brady Caverly
World Wide Web publisher and Internet expert. Caverly takes the mystery out of the Internet and Web



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



Great Toaster Graphics Powerful Graphics Techniques with LightWave 3D ToasterPaint &ToasterCG.



Pyrotechniques Create realistic explosion, fire & smoke effects in LightWave 3D. Hot techinques used by



Pro Flying Logo Techniques Broadcast techniques in

modeling, surfacing & animation for high quality logos.



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 NewTak, 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

# **TOASTER TALK**

### SIGGRAPH '96

LightWave 3D Makes Its Mark



by Joe Tracy

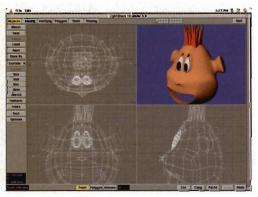


IGGRAPH '96 was held the second week of August in New Orleans, La. As the new *Video Toaster User* editor in chief, this was my first convention assignment. And what an assignment it was! Approximately 25,000 people piled into the Ernest N. Morial Convention Center to witness over 300 animation/graphic oriented exhibits and to attend the numerous courses, panels, pro-

grams and shows. Buses were like sardine cans and all hotels within a 15-mile radius were booked. Minor inconveniences, including unpredictable weather, did nothing to take away from the atmosphere and energy.

### LightWave 3D 5.0

The main feature at NewTek's booth was LightWave 3D 5.0. I was told that LightWave was about ready to enter beta testing for the PowerMac and would be shipping by October or November. I cautiously asked, "Do you have it actually *running* on a Power Mac?" Ten seconds later I was directed to a PowerMac with LightWave 5.0 running. I was impressed. Two minutes later I was standing in front of LightWave 5.0 running on S.G.I.! I



was impressed again. Then I was told that the Amiga upgrade would be shipped before the PowerMac version and that it was in beta testing. I double-checked this when I got back from SIGGRAPH, and the Amiga beta testers do have the program.

Third-party support for LightWave was very strong, and many booths were showing stunning demos in conjunction with plug-ins they were offering. Other exhibitors, like Avid/Elastic Reality, were comparing their product against LightWave.

Third-party developers were also present in NewTek's booth. Unlimited Potential, Inc. was showing WaveFilter, a plug-in giving the user master control over 3D images. ATR Solutions was demonstrating WaveNet Pro, an impressive complete network rendering solution. Dynamic Realities was showing a plug-in for LightWave called Particle Storm, used to create stunning effects like explosions, sparks, fire, and smoke (which also was used in parts of the movie *Courage Under Fire*). MeshPaint 3D, a real-time paint program for modi-

fying object maps, was being demonstrated by Positron Publishing. Blevins Enterprises, Inc. demonstrated Vertisketch used to create complex 3D organic models from physical objects. Scene Machine, for creating user-friendly LightWave logo scenes on a PC, shown by Radiosity Software. Also present at the NewTek booth was Xaos Tools, who ported LightWave to S.G.I., complete with demonstrations. Many of these companies also had booths elsewhere, but it was nice to see them readily available with NewTek.

Although SIGGRAPH is directed at animation and graphic specialists, NewTek demonstrated the Flyer, with alternate demonstrations of LightWave. In a press kit question and answer sheet NewTek stated they are continuing development for the Amiga Flyer. Amiga product sales are good, according to the release, which apparently won't inhibit Amiga product development while secret work continues on other platforms.

### Party Time!

At NewTek's "resistance\_is\_futile" party, vice presidents of Apple, Sun Microsystems, and Intergraph gave glowing reports of their working relationship with NewTek and the strong future that will, and has, come because of it. The captivating moment of the night, however, was the showing of NewTek's LightWave demo video, "resistance\_is\_futile". Giving away a PowerMac and 3D Intergraph accelerator was nice (would have been nicer had I won). But it was the demo, with more action than *Star Wars*, that had everyone in complete amazement until its finale when thunderous applause seemed to rock the *Natchez* Steamship where the party was held. It was easy to see how LightWave has made its mark on the shows and movies we most enjoy.

### Video Toaster User Expo

As exciting as SIGGRAPH itself was, the opportunity for me to meet the readers and advertisers of *VTU* was the best part. I was also amazed at how many third-party companies told me of their intentions to make a major announcements at the *Video Toaster User* Expo. The Expo is being held from November 5 through 8 at the Universal City Hilton in North Hollywood, Calif. Besides dozens of specialized training sessions and conferences, the Expo's exhibit floor will be open for two days with countless products demos to take your job as a video professional or animator to the next level. For information on exhibiting or attending, call 415-358-9500 or e-mail Ann Pulley at apulley@mfi.com.

### MILLER FREEMAN

### OPENS MARKETS



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.

Miller Freeman A United News & Media company

http://www.mfi.com

# **NEW PRODUCTS**

# **Know Your Bible**

### The Commandments of Low Budget Video

Product: *The Low Budget Video Bible* Revised Second Edition

by Cliff Roth

Description: Guide to Inexpensive

Video Production Price: \$27.95

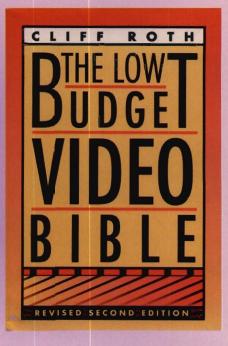
Desktop Video Systems Box 668 Peck Slip Station

New York, NY 10272 Phone: (800) 247-6553 Fax: (212) 285-1463

Do you have lots of creativity but not much money? *The Low Budget Video Bible* might be just what you've been praying for. Now even camcorder amateurs can make their own video shorts and features. Containing information on all camcorder formats including VHS, 8 mm, Hi8, VHS-C, Super-VHS, and MiniDV, the *Bible* also covers professional techniques in lighting, sound, editing, and much more. *The Low Budget Video Bible* even contains some information on the Video Toaster.

The *Bible* helps amateur videographers avoid such common problems as excessive zooming, shaky pictures, poor focus, lack of editing and continuity, while showing more advanced users how to produce truly polished works. The first edition, though not a textbook, was adopted by many schools, including Cornell University, Stanford, San Francisco State and The School of Visual Arts in New York. Try it risk-free for 30 days, or your money back.

FOR INFORMATION CIRCLE 1



### Know It All— Remotely

Product: Data Remote
Description: Remote Data
Collector
Price: under \$1,000
Phonetics, Inc.
901 Tryens Road
Aston, PA 19014
Phone: (610) 558-2700

Fax: (610) 558-0222

Data Remote is a device that produces and communicates reports from remote equipment. It can attach to data loggers, chart recorders, network servers, phone systems, computers or any device with an RS232 output port and give you instant reporting capability over standard phone lines.

Data Remote installs in minutes and constantly receives a stream of ASCII text information for the attached equipment and stores it internally. Using standard line power and a phone line connection, Data Remote can send reports either at user-programmable volume of data from the connected device or to fax machines, remote computers, modems or Internet e-mail addresses through Phonetics' Internet server.

Data Remote also has two alarm functions: an inactivity alarm and alarm keyword detection. Activity through the serial port is monitored. Data Remote can send alarms to fax, computer and e-mail addresses, as well as alphanumeric or numeric pagers.

FOR INFORMATION CIRCLE 2

### **Heavenly Textures**

Product: Texture Heaven
Description: 24 bit color
IFF textures and images







Price: \$89.00
Asimware Innovations
600 Upper Wellington
Street Unit D
Hamiliton, Ontario
Canada L9A 3P9
Phone: (905) 578-4916
FAX: (905) 578-3966



Texture Heaven is a CD-ROM loaded with 24 bit IFF images and textures including 245 different wood textures, 59 abstract designs, 18 wilderness scenery images, 53 marbles, 8 tiles and 135 black and white symbols.

All images are 768 X480 pixels, in full 24 bit color and stored in the IFF format. Preview images in 8 bit color. Thumbnail previews are included for all images. Texture Heaven is mastered to the ISO 9660 standard.

### FOR INFORMATION CIRCLE 3

### Photo CD Slide Shows

Product: PhotoCD Manager

Price: \$39.95

Description: Slide show software for

photo CDs



Asimware Innovations 600 Upper Wellington Street Unit D Hamiliton, Ontario Canada L9A 3P9 Phone: (905) 578-4916 FAX: (905) 578-3966

With PhotoCD Manager, you are able to quickly and easily view PhotoCD discs. PhotoCD Manager

displays full color thumbnail images in 4096 or 256 000 brilliant colors. Just click on a single picture or multiple images to design a custom slide show. PhotoCD Manager will show the pictures you want in the order you want them to appear.

PhotoCD Manager works with any Amiga equipped with a CD-ROM driver or a CD32.

### FOR INFORMATION CIRCLE 4

### Take Control

Product: AsimCDFS

Control Software

Price: \$79.00 Description: CD-ROM Asimware Innovations 600 Upper Wellington Street Unit D Hamiliton, Ontario Canada L9A 3P9

Phone: (905) 578-4916 FAX: (905) 578-3966

AsimCDFS 3.0 allows the Amiga user to access CD-ROM discs. It includes AsimCDFS, CDTV, and



CD32 emulation modules. FishMarket, a Preferences Editor and AsimTunes.

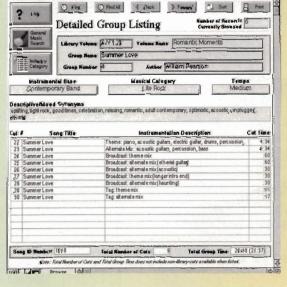
AsimTunes 3.0 combines playback features such as random ordered, sequential play, A-B cuts and direct track access. It also includes librarian features such as track/disc naming, cataloging and disc identification.

AsimCDFS also provides access to ISO 9660, HighSierra and Macintosh HFS CD-ROM formats. It supports direct digitizing from standard audio CDs and playing audio via the Amiga hardware. It also contains full ARexx command sets for all programs.

### FOR INFORMATION CIRCLE 5

### Music Search at the Click of a Mouse

Product: Electronic Music Index INDHOBSEFM



Price: Free with the purchase of 10 CDs or \$5 each upon request.

Description: PC and Mac music organizer software.

Gene Michael Productions 411 Post Road

Buchanan Michigan 49107-1051

Phone: (800) 955-0619 FAX: (616) 695-4005

The Music Index enables users to search for a particular song or group of songs by mood, application, cut length, instrumentation, tempo, music category and more. It also features printout options for convenient hard copy referencing.

The Index contains every song group and cut on every volume in the Gene Michael Productions music library, and lists much more detailed information than space typically allows for in liner notes or catalog entries.

Developed form the same database used by the GMP sales staff to locate appropriate music for clients' projects, the Index is designed for quick and easy access.

FOR INFORMATION CIRCLE 6



### 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 TIMES

# SHINING THE SPOTLIGHT ON Lighthouse Imaging

by Rosemary Picado

f you need 8000 copies of your press release, send it to Kinko's. But if you need 8000 frames of rendering, call Lighthouse Imaging." That's the motto of David Hopkins, co-founder of Lighthouse Imaging in Santa Monica, Calif., Los Angeles' bustling WestSide.

Hopkins and partner in crime, Don Peterson, president of DeskStation Technology, are hoping to capitalize on the "service bureau" mentality that has become such a success in the printing industry. Because of its midranged size, Lighthouse Imaging can

offer services that smaller rendering facilities can't handle, while still offering a great turnaround on small projects that the larger "rendering farms" wouldn't waste their time on.

"Working together with David Hopkins, we determined that we could offer significant value to creative organizations with the proper equipment and people in place up front," says Peterson.

Hopkins, speaking of his shared vision with Peterson, "We had two pieces of the puzzle in place:

a cutting edge hardware manufacturer, DeskStation, and an experienced animation house. When these elements combined, we discovered that we were mutually beneficial to each other."

UNIVERSAL

Lighthouse Imaging clients, Universal Records.

that a Power Mac or two and a souped up Amiga system, and they've pretty much got it all. They also have easy access to Lightworks and Avid non-linear editing systems as well as

Lighthouse Imaging currently consists of 10 Raptor ReFlex workstations

from DeskStation Technology (Digital Equipment Corp. Alpha 21164/266 or better), and a number of MIPS render engines for overflow work. Add to

The Brawn and the Brains

an avenue for independent animators and small facilities to undertake larger scale projects. There are many companies out there that have large numbers rendering engines. almost none of them allow 'outsiders' to buy processing time. And let's face it, fast rendering

machines aren't

cheap."

adds, "We both

wanted to create

traditional off-line and on-line facilities.

Peterson insists that Lighthouse Imaging is different from other rendering services due to the talent and resources of the staff who understand the creative process and can provide assistance on a variety of issues.

"We had two pieces of the puzzle in place: a cutting-edge hardware manufacturer, DeskStation, and an experienced animation house. When these elements combined we discovered that we were mutually beneficial to each other," Hopkins explained.

Hopkins himself has been a LightWave 3D user since version 1.0. He began his career producing animation for safety and training videos, then moved into commercial animation and handled projects for such clients as Nestle, PepsiCo and EMI Records Group. He has also been the

supervising animator on two feature films from Republic Pictures; Digital Man and Space Marines. David has also logged five sterling years with *Video Toaster User* magazine writing the "Taming the Wave" column and spreading his LightWave 3D wisdom to the world.



Lighthouse Imaging has quite an arsenal of talented animators.

With the experience of Hopkins and his crew behind them, Lighthouse Imaging offers professional animation and visual effects work for projects ranging from corporate video to commercials, television and films. "Our animating staff has experience in working with clients of all sizes and

JIGHTHOUSE I M A G I N G

Lighthouse Imaging's logo.

types. We can do anything from help out a rendering client to complete animation design and realization," he said.

Lighthouse Imaging also provides a number of different methods for the return of rendered work to clients including bitmapped images, almost any format of video you can think of, even 35 mm motion picture film.

Lighthouse Imaging is accessible through the Internet (http://www.primenet.com/~lthouse) so it's possible that an animator can send scene data directly to them in digital form and sample images can be returned for approval. If necessary,

Lighthouse can even return the completed images via the Internet.

Today, the service is currently handling special projects for corporate clients like Merrill Lynch who has returned to Lighthouse Imaging for the fourth year. A few projects are top secret, Hopkins says, and adds, "We keep plenty busy around here, and that's the way we like it!" Other recent projects have included commercial I.D. work for Universal, Zero Hour and Uptown Records.

Still, their main service is affordable contract rendering. The staff at Lighthouse Imaging has the flexibility to charge for services on a project-by-project basis. Their standard measure is to have the potential client render a couple of LightWave's Benchmark frames and give them the results from their machine. This gives them an idea how long the render will actually take.

Hopkins says that a good way for clients to save money if they have the extra time, is to only commission a couple of machines for their render, instead of the whole facility. "We do go out of our way to tailor fit the pric-

ing for each client," Hopkins said.

But most importantly, Lighthouse Imaging can often render final-resolution scenes in the same or less time than it would take an independent animator to render a low-res preview.

An animator at heart, Hopkins insisted, "What we've done is really break down one

of the biggest barriers to animators, that of having enough rendering power to allow them to do what they should be doing:

animating."

Rosemary Picado is the managing editor of Video Toaster User. Contact her about profiling your Video Toaster, Video Toaster Flyer or LightWave 3D-based business in "Toaster Times" at RPicado@mfi.com.

### EDITORIAL EVALUATION

Circle number on Reader Service Card I found this article:

Very Useful Circle 086 Useful Circle 067 Not Useful Circle 068

VTU

## FLYER TIPS AND TECHNIQUES: INSERTING AUDIO

Video emergency! A client calls you up, frantic, saying there's been a terrible mistake! It seems that in the training tape you've been producing, the CEO has mistakenly used the word "extradite" instead of "extricate" in his lectures. This has happened in five different sentences. You try to convince him to leave it, but he does not want a case of mistaken vocabulary to make him look stupid!

How can you fix it? Luckily, these clips are still on your Flyer hard drives.

First, have the client come in and re-record the sentences as audio clips, replacing the word "extricate" for "extradite." Even though you are only replacing one word, have him say the entire sentence so the word will fit in with the flow of the sentence phrasing. Also listen carefully to the originals, and try to match the pitch of the voice as well as the speed and volume of the sentence.

When the recorded material seems satisfactory, save the audio clips and change the in- and outpoints so that you have only the single word "extricate." Then clone the original clip, making the first clip's audio stop before the word in question, while the second clip begins after the word.

Then insert your replacement audio clip between the two clips. This is a *split edit*, as the audio will be replaced over existing video. After a bit of tweaking the in- and out-points—voila!

The client is amazed as he sees and hears himself say "extricate" instead of "extradite" on the monitor! You'll be pretty amazed yourself at how it is virtually impossible to perceive that this edit was ever done. More magic from the Flyer, and a happy client leaves the studio.

Sam Kanter is director of Video Arts at NYC (221 East 32nd Street, New York, NY 10036). Reach him at (212) 684-3304 or on-line at 74041.777@compuserve.com.

# **TOASTER POST**

### **The Art of Commercials**

**Tips From the Pro** 



by Burt Wilson

y very first job in commercial broadcasting was as a copywriter with KXOA-AM in 1959 in my home town of Sacramento, Calif. KXOA was the top rocker in the market at the time, and I felt very lucky to go to work for a winner right off the bat.

I will never forget my first conversation with

I will never forget my first conversation with the station sales manager. He said, "Burt I know you can probably write hundreds of great lead lines, but it is the merchandising idea I'm looking for." What he meant was that he wanted campaigns. He was looking for the idea that a client could use for three months or more, expanding on it each week in a different way. Continuity of image. A donut, maybe. A different retail sell under an all-inclusive umbrella theme.

That advice is as good today as it was then. Later, when I went to work for an ad agency in Los Angeles, one of the vice-presidents told me, "We don't go out and sell an ad idea to a client. We go for the complete sell-through four-color brochures, collateral, point-of-purchase pieces, shelf talkers—everything it takes to sell the product."

Another good piece of advice. Don't think in terms of a single ad idea, but different ways to merchandise that idea in other media. Cover all the bases. How many times today do we find retail clients doing a TV commercial on some item and then pushing another item in the newspapers (usually under a different theme) and yet another approach for his coupon copy. Why does this happen? Because every different media salesman wants to get his own finger in the pie. So nothing is coordinated and sales reflect that. Why not have a discussion with your client on coordinating his advertising? Couldn't hurt!

If you're producing TV commercials only, you probably don't get into advising your client on other advertising procedures, but if you can, your client will love you forever. It doesn't hurt to give away a bit of free advice here and there. Remember, most retail clients are oblivious to sophisticated methods of advertising. If you are knowledgeable, you can help them—and keep a client for life!

### The Merchandising Idea

In the late 60's I was handling Shakey's Pizza Parlors on the West Coast. A parlor owner told me that the broadcast campaign we were doing was not working and he was getting a lot of response from coupons. This is common with retail business owners. They see coupons coming through the door and they

think that's all that works. What to do?

Well, I invented the *radio coupon*. I designed a campaign that asked people simply to write "\$1-off" on a slip of paper and bring it in and it would be treated like a regular \$1-off coupon. In addition, I offered a prize for the most unusual coupon. You should have seen the radio coupons come in! We even got coupons with \$1-off burned into a wooden plank, as icing on the top of a cake, and painted on the side of an old clunker car. It was a huge success!

Just the other day, an account executive from the local cable company I do the commercials for came to me and lamented about an account of his which dropped TV in favor of coupons. So, we now have the *TV coupon* commercial which shows a person writing down "\$5-off" on a piece of paper for a tanning room promotion. This is just the kind of merchandising idea that pays off. And we got 'em back on TV!

Back to Shakey's. Later they wanted to run a \$1-off coupon in the TV guide of the *Los Angeles Times* in addition to their broadcast campaign, and they wanted something as unique and different as the radio coupon. So I looked up the circulation of the *Times* and wrote a headline: "Today Shakeys Pizza Parlors are Giving Away \$1,245,351!" It created a lot of comment and was a big success. Go on, use it!

Once I was doing the advertising for an on-your-lot builder called Cardinal Homes. When I went to see them, I noticed they had a little plaster-of-paris bird painted like a Cardinal. Since I was the on-camera announcer for the client, I ended every commercial by holding the bird like it was perched on my hand and saying: "And remember, as the little Cardinal bird says, Cardinal homes are..." At this point an off-camera voice would come in and say, "Cheap...cheap!" With that I would thrust the bird inside my jacket like I was hiding it and say, "Someday I've got to teach that bird to say *inexpensive*!"

Well, I had people come up to me on the street and ask, "Hey, have you taught that bird to say 'inexpensive' yet?" All true stuff.

### **Crafting The Commercial**

Writing a commercial is a craft that has to be learned. You cannot do it willy-nilly. I consider the three months I spent at KXOA radio (I was hired away by the local TV station to do TV commercials) the most valuable experience of my career. Why? Because as the top rocker in the market, KXOA was jumpin' with business and I had to write from three to five commercials a day! Then, at 5:00 p.m. every day, we'd

go into the studio and voice them as two-voice jobs liberally sprinkled with echo and reverb, as was the custom of the day.

Because I had to write in the same room with another copywriter, the traffic girl and the program director, with salesmen coming and going constantly, I learned many things: 1) To completely focus my attention on the job at hand, shutting out any and all distractions around me. 2) To always expect to come up with the right idea I needed (this took care of any writer's block. 3) To make smooth transitions between thoughts or product points that led the listeners' minds along a greased track without sidetracks that might cause the listener to actually think about something and, in so doing, lose the train of the commercial. 4) To build to a climax—the call to action-in a manner which motivated the listener to act with a sense of timeliness.

The latter is very important. There is an old story that says, when the classical orator Cicero finished a speech, the people would say, "How

well he spoke." But when Demosthenes finished speaking, the people would say, "Let us march!" So you have to motivate! In the retail business there is no room for the so-called *image* commercial. It's all hard sell, get-to-the-point directness and all special effects should contribute to that end.

### **Using Toaster Effects**

Which brings me to Toaster Effects. Do yourself a favor and watch PBS for a few hours some night. I guarantee you that all you will see are cuts and dissolves. No fancy wipes or floating transitions. Why? Because there is no need for them. The cut and the dissolve still are the best ways to move a story along.

Where Toaster Effects come in handy in the 30-second commercial is when they are motivated. If you have a window within the screen that changes (new products come on or something like that) you can use any number of wipe effects and you'll be keeping the eye glued to that box. That's good TV. But if you fly some-

thing off which reveals some necessary product or product point behind it, remember: the eye is going to follow that fly-off, and it won't return to the center of the screen until the fly-off is gone. This is *not* good TV!

Always remember that the viewer's eye follows movement on the screen. If your client wants you to flash his telephone number at the end of the commercial, tell him that if he wants to do that, there's no use putting an address or map at the end. The viewer's eye will be taking in every flash. The point is: don't ruin a superb writing and merchandising idea with effects that obscure it.

See you next month!

VTU

Burt Wilson is an award-winning TV producer-director in Southern California. He welcomes e-mail at burtwilson@aol.com. Visit his website at: http://home.earthlink.net/~futurecon.

### EDITORIAL EVALUATION

Circle number on Reader Service Card I found this article:

Very Useful Useful Circle 027 Circle 028

Not Useful Circle 029

### NEWS & NOTES

### VIScorp CEO Issues Amiga Statement

Bill Buck, CEO of VIScorp which now owns the Amiga computer and technology, has issued an open letter to Amiga users.

In the letter, Buck stated that VIScorp had to follow a painstaking process to obtain the Amiga, including claims from at least 11 different banks or companies that claimed to be "owners" of the Amiga technology and/or inventory because of Escom's liabilities which exceeded \$250 million. He confirmed that an agreement signed on July 19, that cannot be changed, makes VIScorp the owner of the intellectual property of former Commodore and inventory of the former Amiga Technologies.

Buck also cautioned against expecting immediate miracles, stating that VIScorp will make steady progress.

In a separate release, VIScorp reconfirmed their intention of supporting the Amiga stating in bold letters, "One of the primary objectives of VIScorp's business plan is to develop, manufacture, market, and sell Amiga Desk Top Computer Systems."

VIScorp also said in the statement that they will "research and develop valuable enhancements to the architecture and technology of the Amiga, resulting in a wide range of next generation, price competitive computer products."

VIScorp also warned against companies planning to build "compatible" versions of the Amiga without obtaining proper licensing stating, "These companies will be placing themselves at legal risk, because their systems will undoubtedly infringe on Amiga intellectual property rights, including copyrights, patents, and trade secrets."

### Amiga Makes Olympic Appearance

The 1996 Summer Games provided a unique opportunity for the Amiga to demonstrate its worldwide appeal, especially among news and media professionals from Europe and the Americas.

Several US-based Amiga companies joined forces to provide computer support to the press agencies attending the Games. A series of high-end Amigas were placed at the heart of the media editing room for use as an on-site editing tool for video footage taken by various reporters and media producers, giving the Amiga a chance to demonstrate its prowess in handling complex broadcast and video graphics.

The event space was organized by Keith Cagle, of Virtual Reality Productions and a statement of thanks was given by VIScorp to the Amiga community for their support in the effort as well as representatives from Virtual Reality Productions, QuickPak, NewTek, Inc., Anti-Gravity Products, DPS, and Microspace.

### Amiga Developers Returning?

Leading distributors of Amiga products are reporting more inquiries from developers that were once thought to have abandoned the Amiga. Apparently a good sign for support in Amiga's future, one distributor says to expect to begin seeing new products and upgrades, such as VistaPro 5.1.

Joe Tracy is editor in chief of Video Toaster User magazine. Reach him at jtracy@main.rosenet.net.

# THE FLYER SUITE

### **Attack of the Flyers**

### **Animated Invasions Over Flyer Clips**



by Joe Tracy



ne major advantage of owning an Amiga with a Video Toaster Flyer is being able to mix LightWave 3D animations with Flyer clips, resulting in the ability to do some powerful things. The process is fairly simple, even for the thousands who own the Toaster or Flyer, but have never touched LightWave 3D because it appeared intimidating (I didn't

touch it for two years). This tutorial is very basic and therefore will mostly benefit the Flyer user with little experience in LightWave 3D. Try it out!

In this tutorial, we are going to create our own *Independence Day*. Of course, you have to be realistic and understand that our version won't be next summer's smash hit (see Mojo's "Last Word" column, this issue). But we also won't let that stop us from learning how to apply the same techniques to our respective businesses.

### **Abducting Your Relatives**

Before getting down to the nitty-gritty, you need to do some filming. For the sake of experimenting, grab a family member and tell them that you need them to watch a U.F.O. for you. If they think you are crazy, just ask them for 24 hours to prove your case.

Take the family member, friend, or \$28 million-per-movie actor, to your back yard and explain exactly what you want them to do. Film them in many different poses and actions (pointing, pretending a ship is flying overhead at a great speed, etc.), but be sure to leave plenty of room above their head for your spaceship. If you want to have even more fun, film extreme close-up reactions that you can edit together with your animation/video mix. Once you feel you have enough footage for your experiment, you can tell your star that you are going to have the videotape specially analyzed so they can see what they were really pointing at!

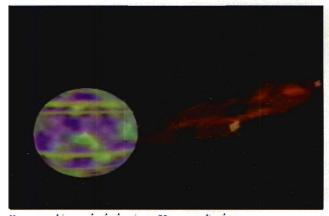
Take the video tape to your secret lab, also known as your Flyer workstation, and digitize the clips that you think will work best for your animation. Even before filming, you should have conceived in your mind what you want your final product to look like. It is easier to create if you have first seen it in your mind (unless you were picturing the attack on the Death Star from *Star Wars*).

### **High-Flying Hollywood**

Once the clips are on the drive, the fun begins:

1) Open up LightWave 3D. If you've never done this before, you're in for a treat.

- 2) When LightWave is open (it is now in the Layout screen), select the Option button on the top menu bar. At the bottom left-hand corner of the Options Panel is a button called Add Plug-ins. Select it. A file menu will open up. Scroll down until you find the drawer called Plug-ins. Select it. Now select LightWave. Find the ClipSave.p file and select it. Once selected, hit OK. You should now see a message that it was successfully loaded. Click the Continue button. You should be back to your Options screen. Go ahead and load the other plugins too. When you are finished, exit LightWave, by clicking the Switcher button.
- 3) Once exited, click and hold down the mouse button on the Programs button. You'll see that LightWave has an asterisks next to it, which means it is loaded into your system. Hold down the Shift key and select it. Let go of the mouse button. You've now unloaded it. Now select it again to go back into LightWave. We did this to make sure that your Plugins were properly installed.
- 4) Select the Images button on the top menu bar. When the Images panel comes up, find the button called Load Flyer Clip and select it. A menu will come up prompting you to find your the clip you want to load. You will have to select which drive it is on (i.e. Fly0 or Fly1). Once you've found the clip, you may see two versions of it—one with the name you saved it as and the other the same except with an ".I" after it. Select the one with just the clip name (the other is an icon file). Hit OK.
- 5) Now under the Load Flyer Clip button you should see the name of your Flyer clip followed by the word clip in parenthesis. Congratulations! You've



Your spaceship can de-cloak using a 50 percent dissolve.

now loaded your Flyer clip into LightWave! Hit Continue.

6) You should now be back to the main LightWave screen. On the top menu bar, select the Effects button. Select the top first button in the Effects Panel titled Image Compositing. You'll see that the word "none" appears after Background Image. You want that to be your clip. Select it and scroll down to find the name of the clip you loaded in the Images Panel. Select it. It should now be displayed next to Background Image. Hit Continue. This returns you to the Effects Panel. Hit Continue again to get back to the main LightWave screen.

7) Now find the Options button on the top menu and select it. To the right of Layout Background you will see three buttons. Select the one that says BG Image. What you've done is

hand column in the View area again. If perspective is again selected, change the selection to Camera by clicking the Camera button. Your background reappears with a space ship in it! Hit F9 on your keyboard to see what it looks like on your Program monitor. You're seeing the back of the space fighter in the middle of your scene. You probably don't want it there so let's move it. Hit the (Esc) key to return to the main Layout screen.

11) Under the View area, on the left-hand column, you'll see an area called Edit that probably has the View button selected. Change the selection to Objects by clicking the Objects button. You'll notice that the SpaceFighter object changed colors from white to yellow. Yellow means that it is the highlighted object that you'll be working with.

of your object is now set, you will still see that the back of the Space-Fighter is facing you. You may want to start with the SpaceFighter facing you or a side view of it. To accomplish this, select the Rotate button in the Mouse area. Once again you'll see that holding down the right or left mouse buttons has different effects on the rotation. If you're unsure if the object is rotated the way you want it, then create a key, as done in the last step, and hit F9 to view it.

**16)** Work with it until you have the first frame exactly the way you want it. Be sure to create a key when you're done.

17) At the bottom of the Layout screen there is a box after the words Current Frame. Select the number in that box (probably 0 or 1) and change it to 30. Hit return. What you

### "Note: If you don't create a key every time you move your object, then the computer won't remember your setting and you'll have to redo it."

told LightWave to show your clip in the background, while you're working, so that you can match the animation to the action. Once you've selected BG Image, hit Continue.

8) Now that you're back to the main menu, look at the top of the left hand column in the View area. You'll see that the button Perspective is selected. Select Camera instead. This will show you the view from the camera which you'll be working in. Your mouse arrow will change to "busy." When it's done you'll see a shaded version of the first frame of your clip in the background! To see it on your program monitor, hit the F9 key at the top of your keyboard. After it paints it on your computer monitor, it will render a color version to your Program monitor! Now the real fun begins.

9) Hit the (Esc) key on your keyboard to return to the main Light-Wave layout screen. On the top menu bar, find and select the Objects button. Now select Load Object. Find the drawer titled "Space" and select it. Select the object titled "Space-Fighter." Hit OK. Now click Continue to get back to the Layout screen.

10) Look at the top of the left-

12) Under the Edit area in the left-hand column is the Mouse area. Make sure the Move is selected. This allows you to move your highlighted object on the Layout screen.

13) Place your arrow cursor over the SpaceFighter object and click down and hold the left mouse button. As you move your mouse up and down on the mouse pad, you'll notice the object going away from you and getting closer, depending on your movements. Now hold down the right mouse button. This will move your object up or down. Using these two buttons, place the object at the distance and height that you want it in your scene.

14) Once the object is where you want it, click the Create Key button on the bottom of your screen. The number 0 should be displayed next to Create Key at Frame. Change that to 1 and hit return. What you have done is place the object at the point you want to start. You could even move it off the screen and have it start out of the picture. Note: If you don't create a key every time you move your object, then the computer won't remember your settings and you'll have to redo it.

have done is now jumped one second ahead. If you had movement in your background Flyer clip, you will see it change. You can now move your object to its next point (remember, you are one second in the *future*, because in video 30 frames of animation equals one second).

This time when you create a key, be sure to create it at Key 30! Whenever you want to view what the screen looks like, remember to hit (F9). You can continue jumping one second ahead in your video and creating the next animation point. What LightWave will do is create all the frames in between 1 and 30 based on the beginning and ending points, movements, rotations, etc. that you have given it.

18) When you changed the number in Current Frame to 30, you may have noticed that the object moved back to its original position. If you would rather work from the last position it was in, you can go back to Current Frame 1, make your changes, and make sure to label your Create Key as 30. However, you are still looking at the background for Frame 1 instead of 30. An easier method would be to return to

# DR. TOASTER

### **Stand By Your Toaster**

**Questions From the Training Tour** 



by Dan Ablan



ast month we answered a few questions from around the globe on general Toaster information. This month, there are a couple of concerns to be addressed that have come up in training seminars, e-mail, and through the Video Toaster mailing lists. The first concern is, "Why should I upgrade if it is not going to be supported?" There are two answers to your

question. First of all, the Toaster is going to be supported if you upgrade, and secondly, why wouldn't you want the incredible new features in Toaster 4.1?

As far as the future of the Toaster, that is up to NewTek. As far as the future of Amiga, well, it is already a niche market. But there is no reason to dump your system! It can still make money for you, and regardless of what negative people say, there is plenty of support for your Amiga. As a matter of fact, I still use my Toaster regularly for ToasterPaint graphics, CG and now with 4.1 and its sequencing capabilties, I can easily put together CG builds and Framestore dissolves without editing.

### Old Faithful Toaster

Once in a while, I even have an animation that renders on my Amiga. For example, I know so many people that used their Amiga primarily for LightWave. As soon as the software was available for the PC, and Commodore was no more, many sold their systems as fast as they could. For those that sold due to financial concerns, that is one thing. But for those who sold because Commodore was no longer in business, you may have made a terrible mistake. When Commodore was in business, was it much different than it is today? Not really.

I decided to hold onto my Toaster, even though I have two PCs to crank out LightWave 3D animations. But last month, a company called and insisted that it still uses their Amigas daily. They needed some extra rendering work, so they overnighted me their floppy disks with the LightWave scene files, and I proceeded to load them into my Amiga system. I set the animation to render, and went back to work on the PC. Later that night, I compiled the animation in my Amiga PAR, and overnighted the tape to the client. The next week I received a check for \$400.

A week later, another client of mine from the Chicago area called with a logo job. There was no rush, and I cheerfully accepted the job. One of my PCs was tied up rendering. The other was waiting for me to finish a chapter for my book, so I hopped on the Amiga and loaded up my Toaster. I created



Figure 1: With Toaster 4.1 you can now load PostScript fonts directly into the program and rotate them the way you like.

the logo and scene and set it rendering. It took two days, but that's OK, because at the end of the week when I delivered the animation, I joyfully handed the client an invoice for the job. Now let's see, most Amiga Toaster systems with a PAR have been selling for around \$2000 to \$2500. That means between just those two jobs within weeks of each other, I easily cleared \$2000. What a waste it would have been to sell my Amiga and Toaster! The following week, I needed to finish a job for a client that was all CG pages. Toaster to the rescue.

My point here is that just because the hot thing at the moment is Digital Equipment Corp. Alphas, Windows NT and Windows 95, does not mean you are totally out of sorts because you still use an Amiga. You like your computer, right? It has been good to you, right? Stand by it! Now, this isn't forever, we all know that. But if the Toaster was working for you before, why wouldn't it now. With Toaster 4.1, you have even more power than any other version of the Toaster software, and to be honest, it's a cool upgrade. Eventually, the Windows environment will be a must for serious computer users. Yet with Toaster for Windows on its way, you'll definitely have a road to travel, so put your concerns away.

### **Amilink Upgrade**

I'm happy to report that there is now an Amilink upgrade from RGB computer, that makes Amilink editing systems compatible with Toaster 4.1. So go ahead. Upgrade! (Note: NewTek does not know I'm

Dr. Toaster continued on page 32

# LICHTWAVEPRO-

# 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.

LIGHTWAVE 30

- 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.

OR LIGHT WAVE JE

\$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: mfbooks@mfi.com web: http://www.books.mfi.com

CALL 800.848.5594 or 408.848.5296 for MC/VISA/AMEX orders

# TAMING THE WAVE

### **Trick Or Treat**

A LightWave 3D Jack-o-lantern



by David Hopkins



ey, time flies when you're having fun, eh? Welcome back to another installment of "Taming The Wave." Since this is October, and one of the best holidays of the year is close at hand, I figured we could have fun with a bit of seasonal animation. Our project will be the creation of a proper Jack-o'lantern. At first, this doesn't seem all that

complicated, but give it some thought. It really is a bit more complicated than you might expect.

### **Look Out Ichabod Crane**

Let's start with how to make those rounded ridges that ring the entire outside of the pumpkin. Go into Modeler and make sure that there is nothing in any of the layers. If you are using LightWave 3D 5.0 on an Alpha or PC, turn on OpenGL Smooth Shaded Preview.

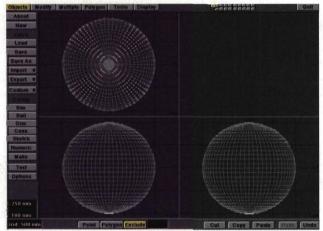


Figure 1

As you might have guessed, we're going to start out with a ball. For the sake of argument (and ease of explanation) we're going to make a big old pumpkin. Click the Ball Tool and then press the (n) key on your keyboard or click Numeric. Set the number of Rings to 64 and Segments to 32. Make sure the centers are all zero and make the sizes one meter on all three axes. Choose OK and then Make.

By looking at the view labeled Top you can see that the points of our ball form a "wagon-wheel" like pattern of spokes. Realize that you are looking at both the top and bottom of the ball in this view. Pay close attention to my usage of the words top and bottom. This gets confusing if you don't.

"Because the points are tightly

packed in the center, it may help you to

drag out the approximate include box,

then zoom in on one of the sides and place

that corner in the correct position."

In the Top view, drag an Inclusive select box to enclose only the upper half of the ball (as seen in that view only). Make sure that the lower edge of your box is just *very slightly* above the middle of the ball. Because the points are tightly packed in the center, it may help you to drag out the approximate include box, then zoom in on one of the sides and place that corner in the correct position. Choose Cut. You should end up with just one half of a sphere now, as seen in Figure 1.

Now switch to Polygon select mode and move to the Face view. Place your pointer at the dead center of the ball and select two polygons, one on each side of the center and side-by-side. Shift click

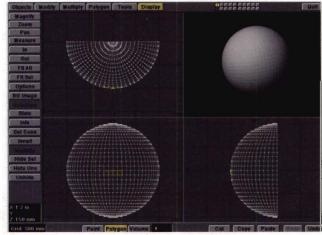


Figure 2

to select one more off each side of those, which should leave you with the *centered* four polygons selected as seen in Figure 2. The goal now is to select all of the polygons in the vertical plane that make up those polygon *tracks*. Pay careful attention to selecting the right polygons where they converge at the top and bottom. When finished, you should end up with Figure 3.

From the Display menu choose Invert. You now have all of the

you the most working room. You can drag the windows using the point where they meet in the cen-

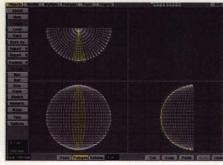


Figure 3

Looking at the Top view, switch to point mode and select all of the points making up the diagonal edges of our pie-shaped object. Don't select the two at the top of either side. Figure 4 shows you the right group.

From the Modify menu choose Size and Numeric. Set the Factor to .95 and make sure all of the axes centers are zero. Click OK. Notice how our pie shape has taken on a sharper curve (Figure 5). Deselect

"Why the heck did we do that? Well, by giving a pumpkin some serious contemplation you'll notice that the ridges are little arches

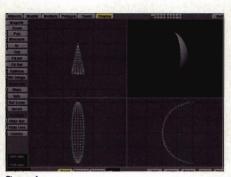


Figure 4

"They repeat at an even interval around the diameter of the pumpkin, right? So why should we have to make every ridge by hand when

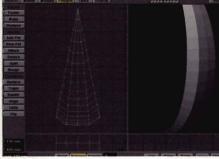


Figure 5

we have the magic of Cloning? Let's continue."

polygons that don't make up that four polygon wide strip selected. Cut and you'll end up with a mere sliver of sphere.

of their own."

Why the heck did we do that? Well, by giving a pumpkin some serious contemplation you'll notice that the ridges are little arches of their own. They repeat at an even interval around the diameter of the pumpkin, right? So why should we have to make every ridge by hand when we have the magic of Cloning? Let's continue.

Back to the Top view. You'll probably want to reorient the layout windows so that this view gives

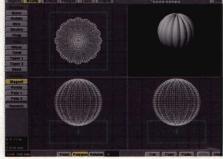


Figure 6

ter of the screen. Follow along close now, I don't want to lose you.

your points.

This time, select the vertical set running top to bottom along the center of the pie slice. Again, don't take the upper-most two points. Now go back to the Size and Numeric gadgets. This time, set the Factor to 1.02 and hit OK. We've just given the ridge a slightly rounder profile.

### Ooh Scary-Math

So this seems to be a respectable ridge—where do we go from here? From the Multiply menu choose Clone. Set the number of clones to 15 (which will give us a total of 16

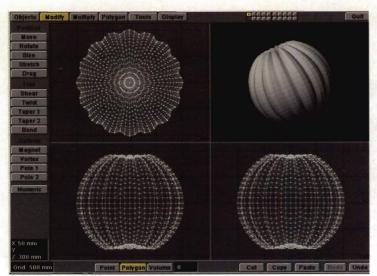


Figure 7

counting our original). Leave all the Offsets at 0, the X and Z rotation to 0, but set the Y rotation to 22.5. Click OK.

Where'd we get 22.5? By carefully using an even number of segments to begin with we made the math pretty easy. We used 64 segments for the original ball, right? When we cut it in half we ended up with 32. If we were using our clone on that we would have used a Y rotation of 180 (half a circle, get it?). Instead we kept cutting away until we were left with 1/16th of the sphere. 360 divided by 16 = 22.5!

Switch to Point select mode and make sure you have no points currently selected. Choose Merge from the Tools menu. The merge is especially important for our upcoming steps. If you don't manage to get 554 points merged, you've done something wrong somewhere.

One side effect of our work here is a large number of unwanted non-planar polygons. I won't go into the whole description of non-planar polygons here because the LightWave manual covers it pretty well. Switch to Polygon select mode, go to the Display menu and choose Stats. Click the + button next to the word non-planar, and all of the problem polygons will be selected. From the Polygon menu choose Triple.

Deselect all of the polygons and from the Polygon menu choose

"Well, we're going to do something that even Ron Popeil would be envious of.

We're going to scoop out the guts of our pumpkin without ever breaking its skin!"

Surface. Name the surface Pumpkin Skin and save the object as "PumpkinRAW.lwo".

Zoom out a little bit so you can see some space surrounding the pumpkin. Choose the Magnet tool from the Modify menu and drag out the magnet box in the Top view to form a square centered on the pumpkin, just a bit larger. In the Face view, adjust the magnet

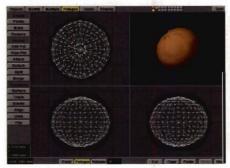


Figure 8

box so that it is centered just below the pumpkin and extends a small distance up into the pumpkin (Figure 6). When you have the magnet box placed appropriately, place your pointer on the magnet's center cross and hold down the right mouse button while moving the mouse up. This will cause the base of the pumpkin to get *sucked up* a little bit giving us a stable bottom. Don't go too far up, just enough to pull the center portion up out of sight a bit.

With the left mouse button, drag the magnet (by its' center) up to create the same situation at the top of the pumpkin (Figure 7). **Gut Your Pumpkin** 

OK, time to make the interior of the pumpkin. Go to layer 2 in Modeler and put the pumpkin in the background. Use the Ball tool to describe a sphere that fits completely within the pumpkin, preferably leaving a fair amount of space between the edge of the new sphere and the internal-most parts of the exterior. Click Numeric and set the Segments to 32 and the Rings to 16. Make the ball.

Switch to Polygon select mode

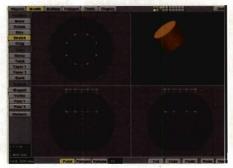


Figure 9

and choose Triple from the Polygon menu. Press Shift-J on your keyboard to bring up the Jitter requester. Set all of the values to 50 mm or so and hit OK. You should see that the perfect ball has become a bit lumpy—almost hand-carved (Figure 8).

So what is *this* for? Well, we're going to do something that even Ron Popeil would be envious of. We're going to scoop out the guts of the pumpkin without ever breaking its skin! If you've ever hand scooped-out a pumpkin (come on, you know you have) you know that no matter how hard you try, the interior will never be perfectly

round. By jittering the ball we'll use to cut out the middle, we've accomplished the same sort of Boolean requester. Choose a Subtract and click OK.

This may take a minute depend-

ing on your system speed. When it is finished. switch Point select mode and choose Merge from Tools

sure because we can't see the inside. As any good Jack-o-lantern carver knows, you need to create a lid. Save this version first as "PumpkinPrepped.lwo" and let's

Go to layer three and put layer one in the background. Use the Disc tool to drag out a cylinder like the one shown in Figure 9. Do that by defining the volume using the mouse (start in the Top view to orient the tube along the Y axis) and

So here's where you come in. You've got a pumpkin (pre-hallowed), you've got some pumpkin-like textures.

Let's see some cool Jack-o-lanterns!

Create your ultimate Jack-o-lantern and save it as a JPEG image file. E-mail your

> image to me at Ithouse@primenet.com and I'll post them on my Website ...for Halloween (with credits of course)."

No menu. points were merged! You're right, didn't need to do it this time, but you should

always be in the habit of merging points after a Boolean.

Flip Your Lid

So look, we have a pre-cored pumpkin! But we can't tell that for

then by hitting Numeric. Make the number of rings 16, then hit OK.

In the Top view grab every other point in the cylinder top and choose Stretch from the Modify menu. Click Numeric and set the X and Z Factors to .7 leaving Y at 1. Now we have a starshaped tube (Figure 10). Deselect all of the points and drag a rightmouse-button lasso around the bottom set in the Face view.Choose Stretch then Numeric and hit OK. We'll use the same

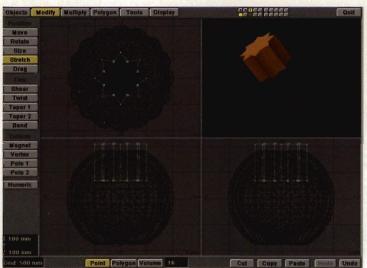


Figure 10

effect in a 3D form, minus the stringy pumpkin guts.

Let's prepare for the future and give this mass of pumpkin stuff a surface name of its own. Name the surface PumpkinInnards and save the object. Always save pieces before you do Boolean work, just in case.

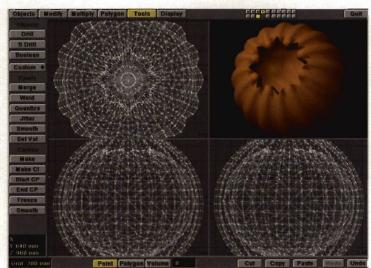


Figure 11

If your screen looks like Figure 8, simply press the (') key to prepare for the surgery. If not, just put layer one in the foreground and number two in the background. Press Shift-B to bring up the values as last time, .7 on X and Z.

Hey look, we're on a roll now! Name the surface for this whole object "PumpkinMeat" and save it as "PumpkinTopCut.lwo". Put layer one in the foreground and switch to Polygon mode. Copy the entire pumpkin to layer four and Paste it. Put layer three as a background. Press Shift-B for the Boolean requester and choose Subtract and OK. Merge points, save it as "PumpkinBody.lwo", and take a look (Figure 11).

But wait! We can't just do without the lid! Good thing we have two pumpkins here in Modeler. Put layer one as your foreground and layer three as your background (keeping up?). Shift-B for the Boolean but select Intersect this time. Merge points and you've got the perfect cap for your Jack-o-lantern. Save it as "PumpkinCap.lwo".

### **Surfacing Your Pumpkin**

Using the same carving techniques we just used, create the face of your dreams (or nightmares). For now, let's move the show into LightWave for a little surfacing magic. In Layout, load PumpkinBody and the PumpkinCap. Go into the Surfaces panel and choose PumpkinSkin surface.

Complex textures are totally subjective. With that in mind, here are the settings I used for pumpkin skin:

```
Surface Color = 200, 134, 78
        Fractal Noise
        Size = .2, .6, .2
        Color = 191, 131, 70
        Freq = 3
        Contrast = .85
Diffuse Level = 85%
        Fractal Noise
        Size = .2, .6, .2
        Value = 100%
        Freq = 3
        Contrast = 1
  Specular Level = 5.5%
        Fractal Noise
        Size = .02, .06, .02
        Value = 50%
        Freq = 3
        Contrast = 1
   Glossiness Medium
   Bump Map
```

Fractal Bumps Size = .2, .2, .2Amplitude = 20% Freq = 3Fractal Bumps Size = .015, .02, .015Amplitude = 50% Freq = 3Smoothing On Max Smoothing

Scales = 2Small Power = .75

I placed a slightly yellow/orange point light in the middle to illuminate it, then added two more lights of the same color, but at a much lower intensity. These lights were located in the mouth of the opening to cause a radiosity effect.



Figure 12

Angle = 50.0

The change in Max Smoothing angle will help to resolve many of the smoothing problems associated with mixed curves like we have in the pumpkin body. Now on to the PumpkinMeat.

Color = 200, 134, 78Diffuse Level = 100% Bump Map Crumple Size = .3, .3, .3Amplitude = 45% Scales = 3Small Power = .75

And finally, PumpkinInnards:

Color = 200, 134, 78Diffuse Level = 100% Bump Map Crumple Size = .3, .3, .3Amplitude = 20%

So here's where you come in. You've got a pumpkin (pre-hollowed), you've got some pumpkinlike textures. Let's see some cool Jack-o-lanterns! What would really be great is this: Create your ultimate Jack-o-lantern and save it as a JPEG image file. E-mail your image to me at lthouse@primenet.com and I'll post them on my Website at http://www.primenet.com/~lthouse for Halloween (with credits, of course). Looking forward to seeing your work!

David Hopkins is President of Mach Universe, a Southern California-based graphics house, and the contract rendering facility Lighthouse Imaging.

### **EDITORIAL EVALUATION**

Circle 031

Circle 032

Circle number on Reader Service Card I found this article: Very Useful Circle 030 Useful Not Useful Current Frame 1, create a key at frame 30, then return to frame 30 by once again changing the Current Frame number to 30. This time, however, the object will be in the position you assigned it in frame 1 and might be easier to work with.

19) At any point you can view what your animation looks like by selecting the preview button (third from the bottom on the left hand column) and then selecting Make Preview. A Make Preview screen will appear on your screen. Make sure the beginning frame is number 1 and the ending frame is number 30. Hit OK. Your mouse arrow now says "busy." This may take awhile mainly ground. If you just wanted to see the

object movements and not your Flyer clip background, you could go back to the Options screen and change Layout Background to Blank. You'll now notice that it creates the preview much faster, but without your background. Once it has prepared your preview, it will give you playback options for viewing.

20) Once you've done the above steps, you'll be ready to render it out as a Flyer clip that you can edit with other Flyer clips! Before going any further, save the project by selecting the Scene button and Save Scene.

21) When you are ready to render your Flyer clip animation, select the Record button on the top menubar. The Record Panel screen appears. Under Animation Type, scroll down until you find and select Flyer Clip. Now select the Save Animation button. Select one of your Flyer video drives and give the animation a name, like "myUFO." Click OK. Now click Continue to return to the Layout screen. Only one step left!

22) The button on the bottom left hand corner of the screen is called Render. Select it. If you get a warning screen that says "resolution has changed to fit ANIM type," hit OK. Set your first frame at 1 and your last frame at the key frame that you ended on. Next to Frame Advance,

click Automatic. Hit OK and let your Video Toaster Flyer do the rest! Once it has completed the entire process, it will return you to the Layout screen. Select the Switcher button then Projects/Files. Select the drive you saved it to and you should find



because of the background. If you just in the many super it's not ladependence Day, but it's not too shabby either. The important thing is, you're learn-

"If your scene turned out right, you now have proof that your family member did see a LightWave U.F.O. Of course, the government will say it's a weather balloon!"

your clip with the animation perfectly mixed in according to your settings. If your animation over video looks messy, don't worry. Practice makes perfect and now that you know a few basics of LightWave, you'll see that you don't have to hold a Physics degree to be able to do simple, yet powerful, functions!

If your scene turned out right, you now have proof that your family member *did* see a LightWave U.F.O. Of course, the government will say it's a weather balloon!

While you still have a long way to go to create a full-scale invasion of Earth, you are at least a step closer than you were before this issue of Video Toaster User appeared in your hands! Take the time to experiment and have fun with mixing video and animation as it can give you many advantages in your business (i.e., animated charts in a business presentation scene, a company's logo coming to life right off the building, etc.).

Flyer Quick Tips

A few months ago, I showed you how to set tabs in your Project/Files menu. You may have been saying at the time, "This is great, but I'd sure like more than seven tabs." problem! Immediately to the left of the Set Tab button you will see a button with a semi-circle and arrow on it. Select it. Now you have seven more tabs to assign!

When you are editing a clip, you know that clicking and holding down on the

arrows next to the in or out causes the project to play as long as you keep holding down the mouse button. You can also fast-forward and rewind this way! By moving the mouse to the left or right, while holding down the button on the arrow key, you can cause your video footage to fast forward and rewind. Because it is touch/move sensitive, you can make it fast-forward or rewind as fast as you want.

Last month one of my tutorial steps talked about Object Dissolve in LightWave. By using that technique with what you learned this month, you can create a "Hologram-type" effect. For example, you could create a Flyer clip of some people looking just above a light table. Now create a planet object and place it just above that light table so it looks like they are looking at it. Now give the object a 50% dissolve and it will blend-in with the scene, allowing you to see through it! Even more impressive would be to make the object "invisible" until a person presses a button. At that moment, you can make it appear at a 50% dissolve to look like the person made the object appear.

Joe Tracy is editor in chief of Video Toaster User. Reached him at jtracy@main.rosenet.net.

# **CYBERSPACE**

### **New Toys From the WWW**

MPEG, XAnim, Aminet and More







spend a lot of late nights cruising Cyberspace to find goodies for you to use and cool Web sites to explore. It is amazing how much information and software is available on the Internet. This month I offer you another selection of odds and ends for you to enjoy. We'll start out with a few utilities, and then I'll

answer the question many of you ask: "Where does he get all those wonderful toys?"

### The MPEG Answer

The real standard for digital video playback is MPEG. despite the Apple Quicktime and Microsoft wannabes. Chances are, you might want to be able to play MPEG videos on your Amiga. There were a couple of CLI based utilities I've written about in the past that could do the job, but they had so many CLI options they were

"Sounds great, you say. Well, there is a catch. XAnim is a CLI- archive contains everybased program with 15 trillion options, choose from a wide give or take a billion...Thankfully, Brian options with various Skreeg's XAnimGUI **comes to the rescue."** Cybergrafx

daunting even for experienced CLI users. That is no longer a problem, thanks to Adrian Siemieniak and his MPEG Intuition. This thing you need, including the MP and AmiPeg utilities. The easy to use interface lets you variety of playback options. Besides supporting all of the native Amiga ECS and AGA forms of dithering, it also supports playback on the Retina, EGS, Village, Opal and display cards. You can even

save individual frames as 24 bit IFF files.

There are a lot of animation formats out there, and the best cross platform player is Mark Podlipec's XAnim. There is an Amiga port by Terie Pedersen called XAnim8. In addition, it supports FLI, FLC, DL and IFF animations (including color cycling and Ham8). It can display GIF87a and GIF89a files (including animated GIFs). It can even play Amiga MovieSetter animations and has extensive AVI support, including IBM Ultimotion, JPEG, Motion JPEG, Intergraph JPEG,

Microsoft Video 1, SuperMac Cinepak, and Editable MPEG (XMPG). It also has extensive Quicktime support, including Apple Graphics (RLE), Apple Animation (SMC), Apple Video (RPZA), SuperMac Cinepak, Component Video, Photo JPEG, along with multiple video track's, animations with multiple codecs, plus merged and separated resource forks. The MPEG player above is better, since XAnim only supports I frames and not B and P frames. WAV audio files may have their sound added to any animation type that doesn't already have audio. It supports AVI, AVI ADPCM, and Quicktime RAW and TWOS audio formats. It is reported to work through promotion with the EGS Spectrum. Picasso II, and Retina GFXBoard video boards.

Sounds great, you say. Well, there is a catch. XAnim is a CLI-based program with 15 trillion options, give or take a billion. It is one of the most difficult CLI-based programs I have seen. Thankfully, Brian Skreeg's XAnimGUI comes to the rescue. It pops up a friendly little interface that lets you use a file requester to choose an animation, and then choose from a number of playback options.

While we are on the subject of animation, AnimInWindow by MaVaTi will play an animation in a window on an AGA machine. You can resize and scroll the animation, and use the function keys to change the playback speed. It is an App window, so you can drag animations on to it and they will be played in series. If you try to play an animation that requires more colors than the WorkBench is set for, an app-icon appears that lets you change the Workbench screen mode.

### Listen Up LightWavers

Here's a few for you LightWave Users: John-Mark Austin's DOFCalc is a Modeler macro designed to allow experimentation and visualization of different depth of field settings without having to render out dozens of test frames. It calculates the distance from the camera to the object, the near and far distances, and the hyperfocal distance (the distance at which far is infinity).

Jason Andreas' Cartoon Surface Shader (CARB AM) is an Amiga LightWave plug-in that gives an anime look to an object.

The VertiLectric Demo plug-in (VLectric.lha) for LightWave 3D 4.0 by Blevins Enterprises creates a bolt between two or more points in Modeler. You can set the segment length, control how much the bolt varies as it travels from point to point, and enter the number of branches you wish to attach to the bolt. Each subbranch will have half as many branches as the one before. The demo limits you to a maximum of five branches. It's great for creating lightning, writing words in electric script, and you can even rapidly morph between two or more bolts to add energy to your arcs.

### **Aminet**

People often e-mail me asking where I found a particular utility. Almost all of them come from Aminet, www.shareware.com, which now ranks as the world's largest collection of freely distributable software for any computer platform. Aminet has been around just over four years, and there are now over 30,000 files available in over five GBs, for the Amiga! There are over 250 MBs of graphics related software, available from over 30 official mirror sites (a mirror is simply a duplicate site containing the contents from the main site). The mirror sites include ftp.wustl.edu, ftp.netnet.net, ftp.nineftp.amigalib.com, moons.com. netnet.aminet.org, and www.wit.com. Remember to use ftp:// instead of http://, and the Aminet files are typically found in the Pub directory under

When you log on to Aminet for the first time, you usually want to download the INDEX file, which contains a listing and description of all of the files. The last one I downloaded was 1.9 MBs, a rather daunting text file to pour through. Jose Roberto Gonzalez Rocha's Aminet2AG simplifies the process somewhat by converting this huge list into a much more manageable AmigaGuide file.

Subsequent times that you log on, you can typically check out the *recent* file. The *recent* document shows you the files that have been added recently to Aminet. You might want to merge these files with your existing *index* file. That would be a rather difficult task, were it not for Alex Tuckers MergeRecent. This little utility quickly combines the *recent* file with the *index* file to create a new *index* file. This way, your *index* file will always be up to date.

If you don't want to spend the time needed to download software off of the Net, there is a simpler solution. Aminet CD-ROM's are produced bimonthly and are packed quite full. For example, the fairly recent Aminet CD 11 contains about 1 GB freely distributable software. It includes 670 MBs software newer than Aminet CD 10, 150 MBs high resolution maps, 80 MBs top downloads, and 20 MBs com-

mercial software. It includes 500 mods, most of them new, 200 utilities, 200 communications programs, 800 programs of other categories, plus 700 maps in 24-bit JPEG format, covering most areas of the world. The maps have an index that is sorted by continent, and a search facility. You can get the latest by calling Fred Fish at (800) 804-0833, or order via e-mail at orders@ninemoons.com. The price is only \$19.95.

### **BBSing Through the Internet**

Previously I have written about Amiga BBS's that support the Video Toaster. Typically, you direct dial to a BBS, and pay long distance charges if it is out of your local calling area. If you have Internet access, some BBS's are Telnet accessible, which means that you can access them on the Internet without paying long distance charges. The Flying Toaster can be reached by telnetting to telnet://204.157.146.105. It has a LightWave section that includes directories of Scenes, Objects, Envelopes, Docs, Tips & Tutorials, Surfaces, Macros, Motions, Utilities, and text Files. There is also a section for graphics utilities, and Amiga and LightWave discussion areas. Virtual Reality at telnet://vrb.com has a semi-mirror of Aminet. The Gnomes Guest House at telnet://205.149.174.42 has Amiga files and carries an echo of Amiga message bases. Blue Moon at telnet://bbs.bluemoon.net has over 20,000 MBs of files. including Amiga files, also available for download.

### **Zipping Along**

I wrote in June about using Zip drives with Amigas. Cruisers of the net may have come across an article claiming that the SyQuest EZ135 could also be used. The author of that report got it working for awhile, then it stopped working and he was unable to get it working on any other Amiga. Based on reports from others, it looks like the EZ135 is a very unreliable choice for use with an Amiga. This may explain why, unlike the Zip drive, there are no public domain utilities available for it.

### Web Site Sightings

I found a few more cool sites for LightWave users. About the best site I have discovered lately is from Richard G. L'Hommedieu, Jr., with his Long Island Media Group Page at www.li.net/~rlhomme/limg.html. The

main goal of this page is to provide links for professional LightWave animators. There are 22 links to search engines, 16 links to 3d object sites, 49 links to texture sites, 16 Amiga links, 15 LightWave tutorial pages, 11 various tutorials, 15 animation and graphic resources, 38 links to companies, 17 links to on-line animations, and a whole lot more. This site is one you should definitely visit. You'll find stuff here you'd never think to look for using a search engine.

WWW.heathcomm.no/~gfxdude has some very cool science fiction Imagine format models with pictures of what they look like rendered.

WWW.cei.net/~cutsing is a LightWave related home page. It has downloadable objects, scene files, plug-ins, and images as well as ARexx scripts and macros. There is also a great section of links to other interesting sites, and a gallery of site owner Thad Cutsinger's work.

I have long been a fan of ImageFX from Nova Designs. They have an area on their Web site where you can see what all the different effects do to an image. It can be found at www.novadesign.com/sample.html. It gives you a good idea of the power of this fine program for image processing, easily rivaling products on the PC. By the way, there is an ImageFX mailing list. To get on it, send e-mail to imagefxrequest@novadesign.com. The body of the message should either be "subsingle" to get the single message per mail version (a format I abhor since it fills up your mailbox with endless messages, making it harder to spot the ones from friends and clients that might be important), or "subscribe" to get the digest version. Once subscribed, you can post messages simply by sending them to imagefx@novade-

Looking for someone in the Amiga community? Try www.amiganet.com. You can search by typing their name, or look through listings alphabetically. You can also add yourself, including a brief description.

As usual, if you want the utilities covered this month and don't want to go looking for them, I have put them all on a disk which you can have by sending \$5 to: Geoffrey Williams, October Disk Offer, P. O. Box 10095, Glendale, CA 91209. Please make note of my new e-mail address: cbp@cris.com.



## AT STEPHEN LEACOCK INSTITUTE

Toaster, Flyer, and LightWave 3D technology at the Stephen Leacock Collegiate Institute in Scarborough, Canada are becoming so popular that people have been known to try to sneak in. At a recent teacher's training course in the technological studies program in communications, Gross admitted, "I actually had one guy who signed up for the course who has his own business based on the Flyer, but the faculty wouldn't let him in. He didn't have the correct faculty credentials."

For the last 16 years, Gross has been the

Technical Director at the Institute and oversees the \$50,000 annual budget of the television broadcasting program. Stephen Leacock Collegiate Institute is a magnet program that is open to students from any of the six school boards in the Metropolitan Toronto area and serves grades nine through 13, the last year being a co-operative internship program with local industry. The students' tax dollars are diverted to the local Scarborough school board, as this program is unavailable in their area.

"Scarborough students can come on special attendance, like an alternative attendance, to take

the TV production program. If kids outside of the Metro area want to take the course, they can come as well. So because we're a magnet program, we get special funding from both the board and the province," Gross explained.

**Wrangling Equipment** 

Though the Institute and the television broadcasting program recently celebrated their 25th anniversary, much of the hardware Gross uses to teach has been acquired during his reign. "In the TV production course, there's a lot of hardware. We run primarily Amigas in the TV program, so we have A4000s, 3000s, 3000Ts, 2000s, and 2500's. There are four Toaster workstations in the broadcast program and there is one Flyer workstation. We have about 75 Amigas in the school, from 500's to 1000's right on up," said Gross.

In the media lab of the communications technology program, there are 30 Amiga workstations including scanning hardware and software, audio digitizing hardware and software, internet access, another Toaster workstation, a framegrabber, a VLAB motion card and 18 stations set up in a local area network. Toaster software includes Toaster 4.1 on

the Flyer, 3.0 on one of the 2000s with an accelerated '040 board, and 2.0 on the other two Toaster workstations.

Gross approximates that 225 of the 1300 students attending the Institute will come in contact with Toaster technology this year, especially in the television broadcasting program. Other students in the communication technology program may choose to specialize in 3D animation where they get their first look at LightWave 3D. It is up to the students to choose their own specialization.

### **Trial by Fire**

Gross believes in the hands-on approach when it comes to learning, so the core curriculum of his lesson plan is delivered by helping the students produce their own news programs that are broadcast to the classrooms by closed-circuit television three times a week. "The way the kids learn

about production is through this vehicle and it's a live event; it's not prerecorded," he insisted.

Gross also does a lot of multimedia training in his communication program. "They'll take LightWave animations for example, and they'll render them out using Ren 24 and turn them



This studio boasts a Toaster 4000/Flyer running 4.1 software with a 24 track Tascam.

"...DPaint is our funda-

mental training program

to get (the students)

started on the Amiga

interface.

into IFF items, then use ADPro or other software, so they can put the files onto standard non-EGA machines and run them in 16 color or greyscale, and put them in multimedia presentations using Scala or Amiga Vision. They will also integrate into digitized music, voice and graphics, and 2D

animation from DPaint. DPaint is our fundamental training program to get them started on the Amiga interface," he explained.

One of Gross' major successes has been his ability to actively recruit the help of local industry. His real coup came on May 23, 1996 when the local cable distributor, Shaw Cable, loaned its mobile truck facility to Gross and his students to produce a three-hour show in the auditorium for the Institute's 25th anniversary.

"There was a 4000 in the control room for on-air credits. The opening animation was done in LightWave 3D, and it was basically a framegrab of the school, that was then imported as an IFF file into the background. Then the letters for the 25th anniversary celebration came flying out from behind the school. It was then recorded to a PAR. (There are 2 Personal Animation Recorder systems at the school.) Then

the tape was rolled in as the opening of the show. That was one of the highlights of the year. The kids really enjoyed that."

The show was recorded to tape, edited, and the final product was then given to Shaw Cable who broadcasted it back into the community, bringing the students' project full circle.

### Students in the Industry

The co-operative education program would have to be the next brightest highlight of Gross' program. After a student has spent at least two full semesters at the Institute in the communications program, he or she is placed in the industry as an intern to continue their hands-on education.

"There our highlight would consist of seeing students who have been trained on LightWave go onto work for other production houses, sometimes using LightWave, sometimes using Alias Soft Image, sometimes using Prism software, sometimes SGI-based. sometimes PC-based and sometimes Amiga-based. What we're discovering is that the foundation training they're getting specifically in LightWave is opening up the doors for them to move on into other areas in 3D animation, or sometimes to stay in LightWave itself. It depends on the company," he said.

Gross' students have been hired by companies such as Wave Form Digital Productions, Digital Rain, Tomorrow Research and Communications, The Sports Network, CityTV Much Music

"...the foundation training they're getting specifically in LightWave is opening up the doors for them to move on into other areas of 3D animation..."

and even the Metropolitan Toronto Police Department's video production division. Shaw Cable and Rogers Cable have also welcomed Gross' students.

"The program has grown and



The production control room includes an A4000 with a Super Gen SX Genlock. The A4000 is the end of a 23 station network and the conduit for all work to go to broadcast.

we've had a lot of success with our graduates. Mike Myers of Saturday Night Live and Wayne's World; he's a graduate of our course. He dropped by a couple of years ago when he got married here in Toronto, came by to say hello and blew the kids away! I use to keep a file of the kids and where they were going, but it kind of became unmanageable. There's just so many of them. Probably out of our broadcast program, we put through 100-120 kids a year. After 15 or 16 years, it starts to build up quite a number of kids. There's a joke down at City TV that we're going to take over the television studio because we have so many of our graduates working for them," he laughed.

### The World According to Gross

Gross himself is a graduate of the University of Toronto with a Bachelor of Arts degree in none other than philosophy. "You can't do this unless you have your head on straight," he jokes. After college, Gross worked as a production coordinator for an actor's equity company and as a freelance photographer. Later, he went to work for a television station in Thunder Bay, Ontario first as a master control technical director and later as the producer of on-air promotion. He then was offered the position of technical director from the Board of Education and has been doing that ever since. Gross also owns his own freelance production company, Howard Gross Production Services, on the side. He admits that he bires the best of his own students for himself.

"I never planned to be a teacher. It's one of those things that just kind of happened to me. I had a combination of experiences; theater, staging and photography, and then video and television, and it sort of came together nicely in this facility at this school," he said.



A4000 Toaster Flyer with a tower case and 500 MB hard drive. This station also includes a JVC 822 and 858 player/recorder.

Gross' advice to other educators who would like to start a program similar to his includes diligence in acquiring



This networked 3D workstation has a A2500 with 68040, PAR, TBC IV and an external 640 MB drive.



Studio 2 is the multimedia lab.

"Gross understands the challenges that teachers face today. He also advises educators to be flexible, warning that kids understand and take to technology faster than some teachers."

dollars and equipment. He insists on working with the school administration, local industry and international corporations to get the assistance and hardware that needed to build a program.

"Sometimes dollars are hard to find, so we've often turned to industry as a partner for support. Working out deals, getting used equipment, chasing the cable companies, chasing the broadcasters, getting hand-me-downs and trying to bring gear, even if it's out of date, into the program. It's better than having nothing at all. And then you can still get the learning process going. You have to be aggressive and you can't be afraid," he insisted.

Gross understands the challenges that teachers face today. He also advises educators to be flexible, warning that kids understand and take to technology much quicker than some teachers. He insists on giving students power and on encouraging them to take an active role in their own education. Teachers, he said, can learn as much from their students as they teach.

Speaking about his teacher's training course earlier that morning, Gross related a story about the tour he gave of the Institute's facility: "They were so silent it sounded like a funeral procession. Finally I said to them, 'What's the matter with you people? Home come you're so quiet?" Then somebody said, 'We're just awestruck'." Howard Gross' accomplishments at the Institute are inspiring.

He continued, "They were thinking, 'How did you guys get all this stuff?' I tried to remind them that we've been doing this for 25 years."

Howard Gross is eager to hear from anyone interested in his program. Reach him at (416) 396-8040, or by email at hgross@idirect.com.

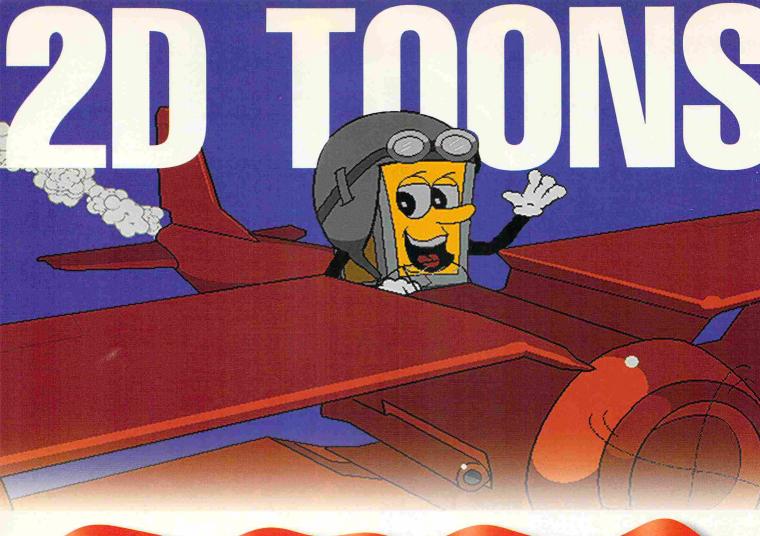
Rosemary Picado is managing editor of VTU. Reach her at RPicado@mfi.com.

the program is out there...

video toaster

ncounter the
greatest Video
Toaster® upgrade
of alltime.
To investigate
further call
one of our
customer service special
agents at...

1-800-TOASTER



# 00 THE TRICK

### **Amiga Toons—Prepare for Broadcast**

With all the fuss that has been made of 3D animation on the Amiga, it seems that 2D animations has been lost in the rush. This is unfortunate as broadcast quality 2D animation can be created and delivered using many of the tools designed for 3D programs. Both image processing programs and hardware playback, as well as out-put devices, can be pressed into service to deliver unparalleled performance.

The first true liberation of animation came with the release of DeluxePaint III. The power to create and play back animations was suddenly within the reach of almost anyone. Since then, computers have increased in speed, hard-

### by Patrick Beck

ware prices have dropped, and out-putting a good video signal has become easier.

So why 2D animation? For one thing, 3D animation is getting easier on other platforms, yet affordable 2D animation on the Amiga has yet to be matched. In a world full of 3D junkies, the lone cell animator can name their own price! New technologies have also broken the "bit-map barrier" by giving us more colors then ever before. Let's examine some ways to get the best quality images out of the Amiga.

### Life Beyond the Genlock

DeluxePaint animations have gotten a bad rap because the animations produced often looked jaggy and did not run up to speed. Still, I have produced animations that convinced people that they were hand drawn and photographed on a real animation stand. The secret is the playback, Originally, the only practical way to get animations out of the Amiga and onto videotape was to use a genlock. Genlocks varied greatly in price and quality, often on a day-to-day basis. You can receive greatly improved results by playing back the animations on a dedicated device like the Video Toaster Flyer or the Personal Animation Recorder.

The DPS Personal Animation Recorder (PAR), originally developed for 3D animators to record rendered images a frame at a time, works equally well with DeluxePaint frames. There are a number of advantages to using the PAR or the Video Toaster Flyer to output DeluxePaint animations. The playback rate is always a rock solid 30 frames per second, segments can be easily cut and pasted on a frame by frame basis for dead-on lip syncing, and the color encoding of the IFF's to NTSC is so good on the PAR, you'll never have to worry about illegal col-



A single frame DeluxePaint animation done in high resolution with 16 colors.

### Digesting the DPaint Images

The easiest way to get your animation into the PAR is to save it as sequential images. Though it is not widely known, the PAR can gobble up nearly every flavor of IFF, 2-bit to HAM-8, without any additional image processing. You will need to activate No Icons under Prefs in the pull-down menu, or else it will attempt to save an icon with each image and the PAR will not like it. Pull down Save under the Picture menu, and enter the numbers for the segment of the animation you wish to send to the PAR where it says frames. Then, save them to the appropriate DDR directory.

It is a good idea to test a frame or two first before you commit the whole animation. Once the frames are on the PAR they cannot be altered. Any changes to the pallet have to be done within the paint program. Compiling the animations on the Flyer takes one more step: The animation needs to be

### **Improving Your Frames**

Because the IFF's are saved as a numbered sequence, you can fire up LightWave and load them as a background sequence. This way, you can use the Soft Filter option in the rendering panel to soften the frames.

Programs like ADPro and ImageFX that do batch processing can also be used to improve the frames. I have found that running a soft blur over all the frames does a lot to remove moire' patterns and interlace flicker. The slight blur also helps to even out the jaggies, and oddly enough seems to increase the images apparent resolution.

Ripples, oil paint, and water color textures can also be applied to the IFF's for interesting effects. Most processing programs output the processed

"Though the media would have us believe that computer animations are all spaceships and Terminators, the truth is, most of us make more money animating flow-charts and arrows in industrial videos."

frames in full 24-bit, which is not useful to a program like DPaint, but just right for Flyers and PARs.

ors again (as long as you leave the chroma filter turned on in the preferences). The the biggest advantage, however, is that your animations can have 256, HAM-8, or full 24-bit frames and the PAR will play them.

saved out as single frames in a separate directory. Then you can use a plug-in to convert IFF's to Flyer clips.



Before smoothing. Yuck.

The same animation after smoothing with ADPro.

### **Improving your Animations**

Probably the hardest part of the whole process is shaking off the restrictions necessary to get Amiga



The DPaint screen is loaded os a the background in LightWave.



Who needs 3D when 2D can really make the point?

anims to run straight out of RAM. There is no problem getting high-res full pallet animations to run at full speed, even with a full pallet. In fact, you can use HAM-8 without the fear of fringing. If you are using the move requester to move a brush, plan it around a 30-fps play back and turn the anti-aliasing on full.

DeluxePaint is now in version V, and has more features then ever. One of the most intriguing features is the ability to use a super-bitmap as a background and fly your camera around it (a super-bitmap is an image that is bigger than what will fit on the screen at one time). This opens a lot



A screengrab illustrating how DPaint V saves sequential images.

of possibilities in producing animation that more closely resembles those produced by traditional animation techniques.

There are often times when a needed graphic can be quickly and easily produced in a 2D program. There are also times where you can use rendered elements created in LightWave, convert the elements to 256 color or HAM-8 IFF's, then manipulate them in DeluxePaint.

Though the media would have us believe that computer animations are all spaceships and Terminators, the truth is, most of us make more money animating flowcharts and arrows in industrial videos. I can tell you from personal experience that it is a whole lot easier to create a looping animation of an arrow snaking through an oiling system in 2D versus 3D.

Now that we can play 2D back at full speed and full color, dust off your DeluxePaint or Brilliance how-to videos and rediscover what made the Amiga great in the first place.

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

### Dr. Toaster continued from page 14

writing this, and they are not paying me to do so. If they read it though, I have a message: Please send me free stuff.)

Well, enough said. Let's take a look at one more concern I received from my seminars here in Chicago. A user asked me about upgrading to Toaster 4.1. He was under the impression that you needed a Flyer and a Toaster 4000 to do so. Wrong! Toaster 4.1 works just fine on an Amiga/Toaster 2000. What you loose is the colored croutons. Because the Amiga 4000 can display in 256 colors, thumbnail croutons can be seen easily. On an Amiga 2000/2500, the screen is limited to 16 colors. But that's all; the functionality of the software is still the same.

ToasterPaint has a few limitations without the AGA chipset, but that's tolerable. For example, check out Figure 1, which shows the ToasterPaint 4.1 interface on an Amiga 2500 with an original Toaster 1.0 board. It looks fine and works fine. So, put your concerns aside.

I guess you could say I'm pro-Toaster these days, aside from all of the LightWave stuff going on. Remember, I worked for a long time on the Video Toaster 1.0 and 2.0 before the 3.0 and Toaster 4000 were introduced. I can remember the

"...as the Video Toaster User

Expo gets closer you can bet

that there will be a signifi
cantly higher energy level

this year."

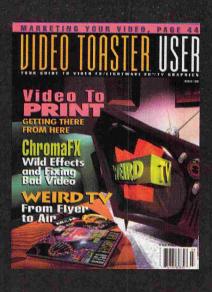
excitement my co-worker Jennifer and I experienced at the small cable station in Valparaiso, Indiana, when we installed our Toaster 2.0. New CG, tons of new wipes, and an updated LightWave. Well, that excitement came back recently when I finally installed Toaster 4.1. Good job, NewTek.

### The Low Down

So what the heck is this column all about this month? It's about how it was, and it's about how it should be. The Toaster was revolutionary and everyone was jazzed about what it could do. That excitement has been lessened by the death of Commodore over the past couple of years, but as the Video Toaster User Expo gets closer, you can bet that there will be a significantly higher energy level this year. For awhile, people were not too fond of the Amiga/Toaster market, and quite frankly, discouraged about what the future holds for their Toaster productions. But those days are gone, and with an estimated 3000 people ready to fill the Universal City Hilton, you can be sure of it. See you there.

Dan Ablan is president of AGA Digital Studios. He is also the author of The LightWave Power Guide. Look for it at your local bookstore, and see Dan on two LightWave In. Focus training tapes from ProWave.

# Subscribe today UDED TORSTER USER



Want this every month?

Do this right now:

Call 1-800-274-2430 or 1-303-678-0439

1 year (12 issues) \$36

2 years (24 issues) \$64

3 years (36 issues) \$86

Don't miss another issue.

# POWEREGUID LightHave 3D In An Explosive Training Video

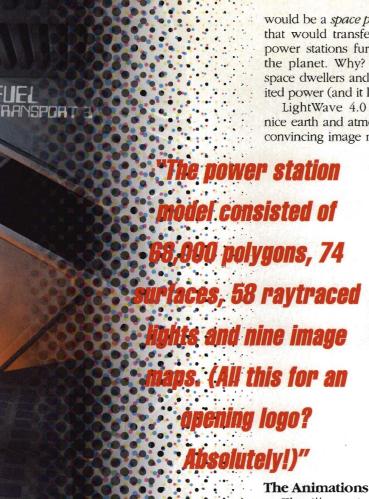
### by Chris Seiler

ave you ever wondered what it takes to make a light bulb actually work? Most of us would say, "Just turn the switch on." But between the switch on your wall and the electrical power plant that provides your power, a lot happens-believe me. Recently I was approached by a power and light company that had a serious safety concern about their personnel due to some recent incidents involving major fires at area power plants. They wanted to produce a training video on the dangers associated with the different fuels used for the generation of power. As a full-time firefighter and part-time fire service instructor (and all-the-time LightWave 3D freak) who produces educational videos primarily on fire science, I realized this training video would not only be excellent for the employees of the power company, but also for the agencies responsible for responding to emergencies at such a facility.

The primary objectives targeted included an overview of a typical fuel oil storage and supply system, the dangers presented to personnel working with and around the fuels (that includes pee-heating the product for ease of pumping while also greatly increasing the flammable and toxic vapors, and explosion hazards), physical and chemical properties of the fuels, and a Hazard Assessment (where a potentially dangerous scenario is presented and students react appropriately). So with that on the plate, LightWave and the Toaster to the rescue!.

### **Outer Space Training**

First off, I usually try to come up with an opening logo sequence that can be updated onto my demo reel, so a lot of times clients get these totally cool opening sequences (that they really did not ask for, but are generally thrilled to have). They take some extra time to create, but really grab the audience. Remember, if you plan on



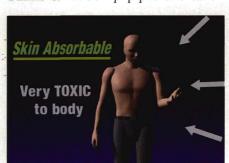
would be a space power station in orbit that would transfer fuel oils to other power stations further distances from the planet. Why? where else would space dwellers and travelers get unlimited power (and it looks cool too).

LightWave 4.0 comes with some nice earth and atmosphere objects and convincing image maps, as well as the

random and actual starfield objects, so a basic space scene is easy to set up. I then modeled the Space Power Station and its fuel pods transport from scratch.

Hot Tip: It's a good idea to visualize and even draw out a story board before getting into modeling and scene creation. Otherwise you will waste valuable time as you sit and stare at the modeler screen. (Been there, done that.)

The illustrations for this article include some animation stills from the opening sequence. The first frame shows the fuel pods departing out of the docking bay area enroute to the main power station. Keep in mind that although it would appear that the docking bay is part of a larger structure, its just a rectangular box with a bunch of made up pipes and hatch



A simple yet effective way to describe toxic effects on the body.

doors inside, with some space doors on one end. The point is, only model what the camera will see. There are 36 raytraced lights inside, some with lens flares and some without. By setting the ambient light intensity to zero (lights panel) you have better control over the whole process of your lighting set up. Lighting scenes can be one of the most difficult things to accomplish. They take a lot of tweaking and test renders and are often over-looked. Using various settings with individual light intensities and fall-off values (lights panel) can really start bringing you towards a photo realistic result.

I used the full-blown power station model in a wide shot where the camera slowly drifts down to one of its four docking bays and the incoming fuel transport pods enter through the hatchway. Finally the camera follows them inside, and along the walls are six big screens mapped with digitized video sequences of the problems back on Earth including, burning storage tank farms, a power plant boiler fire, and the last screen shows the logo Dangers Of Fuel Oils.

The power station model consisted of 68,000 polygons, 74 surfaces, 58 raytraced lights and nine image maps. (All this for an opening logo? Absolutely!) The animation ran for a total of 1800 frames with render times as long as 34 minutes on a Pentium 133 in medium resolution. On the Amiga '040/40 frames took as long as 2 hours.

## Creating the Detail

The second animation was a flythrough of a power plant's fuel oil storage and supply system. If you have ever driven by a power plant (you know, large smoke stacks, giant power lines, etc.) and saw how much detail there is in those multi story steel deck platforms that surround the main boilers, you would realize some simplification would be needed in modeling such a large and complex structure. Initially, we shot video of the entire plant including all the main components of the fuel oil transferring and heating systems.

The client wanted everything covered from the fuels delivery (usually off a barge at a dock) to the final stage, where the pressurized, heated fuel is injected into the burner guns that fire it into the main boiler at flow rate of up to 500 gallons per minute (that's equivalent to your family cars gas tank being consumed in about two seconds). Super-heated steam is produced (the kind that is about 2,000 degrees, invisible, and can cut you in half if you cross it's path) and used to turn the massive turbines that generate the power.

using your client's footage or animations on your demo reel, make sure to make that clear from the start, and include it in writing on your production agreement.

This is where you follow your imagination. I planned to create a futuristic fuel transport system and end up showing some live footage of actual major fire and/or explosion incidents at various power plants around the country. I thought a great setting



## Some Assembly Required

To start with, a basic layout of the land was needed. In Modeler I made a simple (one polygon) giant ground plane, and in other layers I created large temporary box objects and placed them where the different components (the storage tanks, pump houses, boiler structure, piping, etc.) would eventually be. I did this in order to maintain the scale of each model and match the rest of the surroundings. For example, by putting the temporary box for a given model in a background layer and keeping the model you're building within the background boxes boundaries,



A typical fuel oil storage and supply system with a barge clocked in an off-loading area.

you're very close to scale when the completed model is put together with the rest of the objects in the scene. This is a pretty handy trick when modeling large objects that must be in the proper scale when loaded into Layout with other objects such as a city block with street lamps, buildings, or cars.

The models included a transport barge that had tie-off ropes barrels and tires, a docking area with pumps that would remove the fuel, storage tanks, steam heaters, transfer pumps, high pressure strainers, booster pumps, smoke

stacks, main boiler structure, burner guns, tons of piping, a background city, and a whole bunch of low detail fill-in-type objects used in areas that never get too close to the camera, but to be there. This animation ended up being 2400 frames long with 112 objects, 92 surfaces and 14 image maps.

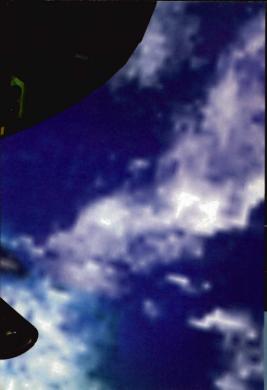
Other animations included an explosion inside a large pipe due to flammable vapors coming in contact with a spark. By using a long elliptical cylinder for a pipe object with a scary darkish color BG fog (effects panel) to dissolve out the pipe into the distance, and a multi segmented flat sheet of tripled polygons (as a top surface oil object) with a ripples displacement map (objects panel), we have what looks like oil inside a pipe. (Tip: any time you're going to be displacement mapping or using bones to manipulate an object's geometry, objects should be subdivided and all polygons should be tripled to avoid rendering errors).

For the concept of vapors, I used a quick and easy method. I created a flat multi-segmented arrow object was in modeler, then in Layout I partially dissolved it (objects panel) with a ripple

> displacement map (objects panel) and the texture center at the tip of the arrow that allows the texture to look as though it ripples down the Y axis. I randomly placed several arrow objects and gave them a slow upward motion, as if rising off the oils surface. Then I added a Vapors logo floating over the oil surface object with the rippling arrows. Now it's ready to be blown up.

The explosions objects consisted of particle and cone objects with fractal noise. (See "Pyromania" in the July 1994 issue of LIGHTWAVEPRO, for the basics in creating explosions—thanks Mojo!) The explosion only lasts for about 45 to 60 frames, so I made a dissolve envelope (objects panel) for all objects so they would all be gone by the time the last explosion object dissolved. I also included an additional four or five logotype animations. One of these animations included the "Humanoid" object to detail the toxic effects of vapors on the human body. The human object holds up his arms, looks at both hands and

"The students are advised that something is going to happen on one of the deck require something levels and they need to evaluate and determine the proper course of action."



grimaces in pain as arrows and logos explain what's happening. This may sound easy, but getting the humanoid to move with natural human-like motion took about five hours for about 10 seconds of animation.

## The Final Test

The final animation included the already-modeled boiler structure and burner guns objects with exploding parts as part of the hazard assessment portion of the video. The students are advised that something is going to happen on one of the deck levels and they need to evaluate and determine the proper course of action. The scene starts with the camera pulling into the fourth level where a high pressure fuel line that feeds the burner guns ruptures. Escaping fuel begins to spray all over the external walls and pipes. The pressure in the line in this final stage is almost 1000 psi. The fuel at this point is extremely flammable from being preheated to lower its viscosity. A spark generated from static electricity, as a result of the extremely high discharge pressure, initiates a large explosion. The scene was set up using the same explosion objects from before, and the escaping fuel was made using several cone objects with a fractal noise transparency map and some velocity.

As the explosion started, I had a disassembled version (objects must be saved out separately to make them blow apart or move independently) with one of the burner guns blown apart. The pieces go zooming past the



To illustrate flammable vapors inside an oil tube I used ripple displacement maps and arrow objects.

camera. Finally, a large white lens flare was enveloped up to fill the entire screen with white. That made an easy transition to the next video segment. It's a good idea to always think of where you're coming from and going to when designing your animations.

## **Education With LightWave**

Video is one of the most powerful, compelling and persuasive forms of mass communication yet devised, and the single best way to make the greatest impact on your target audience. Making educational videos plays a vital role in today's learning process. Making them visually stimulating and fun to watch is a very important role for our Toaster and LightWave abilities. One thing to keep in mind when producing educational videos, is that the attention span of the average audience/student starts to decrease after 16 to 20 minutes of video. If your material duration is longer than 30 minutes or so, you may want to break it up into two segments.

"Making educational videos plays a vital role in today's learning process. Making them visually stimulating and fun to watch is a very important role for our Toaster and

Additionally an instructor's guide, suggestions on course delivery, and some type of student evaluation system (multiple choice quiz) should be included in the video package. Depending on the subject and content of the video, the above may not apply. If you're producing a training video, stop and think of how you can incorporate some LightWave into it, even if it's an unusual way to display a logo or some other high-end-looking effect. By keeping the material you're presenting full of all that Toaster power, your audience will have a more enjoyable learning experience.

I mentioned in my last article, "Toaster on Fire," (VTU April, 1995) how well received the training videos have been in the fire service industry. I'm happy to say it's going just as strong as ever, thanks to these wonderful tools. So the next time you turn on a light (or your computer), stop and think of all the people and equipment it takes to make that thing burn. To all the folks out there who work around the clock at our nation's power plants, be safe. Keep learning, and never let your machine rest—unless you're going to upgrade.

Chris Seiler is a professional firefighter for the city of Lake Worth Fla., and instructs at the South Tech Fire Academy in Boynton Beach. He also owns Burning Visions Productions in Delray Beach and can be reached at (516) 274-4766 or by e-mail at bvisions@millennium.net. Check out his homepage at http://www.millennium.net/bvisions

# Deeper Into TuneBuilder Your Personal Maestro in A Box

by Jim Wulf

uneBuilder is indeed, as Burt Wilson puts it, "...easy and fun to use." In fact, it is even easier to use than described in Burt's review; "TuneBuilder-1,000 Versions for the Price of a Tune" (VTU April 1996). You can manually build your own tunes using pre-defined edit points, but even better, you can let TuneBuilder do it for you! This is where the timesaving features of the program really shine especially for those of us with no musical inclination.

"...Tunebuilder gives you the choice to taisearch procedures to **Vour specific tastes...** you have a SCSI II CD**search engine at vour** ROM player (Figure 1) fingertips, you will be up very simply via a **selecting just the right** you click the play button

## How do I Sound?

First, a little clarification. TuneBuilder allows audition any selection directly from any CD-Ior the program's ROM in the Arpeggio library. This feature is actually one of the program's strongest points and requires only that ROM drive connected to With this powerful your Amiga's SCSI controller. There is a beautifully implemented CDbuilt right into the program that you can bring pull-down menu. When and select track one, it music in minutes may seem that the CD-ROM will not play, but click track two and instead of hours." there's the music! The first track is the program's data track and is

always silent. You also have the option of playing any Arpeggio disc in a regular CD player, but auditioning from your Amiga's CD-ROM is easier because you can simply press the keep or discard button in the Library window and quickly build your preferred list of tunes.

## Name That Tune

Now you know how to audition tunes, but how do you find one in the 344 selection Arpeggio library that is perfect for your program? It's easier than you might think; Tunebuilder has an extremely powerful and flexible search function built right into the program.

First, select one of three types of search logic in the Preferences Window. They are: (1) additive AND, where you specify search criteria and only selections matching all specified criteria are added to the list, (2) additive OR, where you specify search criteria and selections matching any search criteria are retrieved and, (3) Filter, where all selections are initially shown in the list and then, at each stage of your search, those selections not matching your specified search criteria are discarded. You may wish to change your search logic type on a project-by-project basis or just leave it on, say, additive AND, for every project. The point is, Tunebuilder gives you the choice to tailor the program's search procedures to your specific tastes.

The list of available search criteria is extensive, making it easy to narrow your search. You can choose from Style (such as Country Rock); Tempo (fast, medium, slow); Beats per Minute; Length (including less than, greater than, or equal to a length of your choosing); Keyword (either in the title or the descriptive notes for a selection), and Disc (if you know which CD has a particular selection you need). With this powerful search engine at your fingertips, you will be selecting just the right music in minutes instead of hours.

## Load it Up

Highlight the tune in the Library Window that you wish to edit, and load it into the Project Builder window by pressing the Project button (you can select multiple tunes if you wish). TuneBuilder will tell you which CD-ROM to put in your drive if it is not already in the drive. Now that you are in the Project window, hit the Retrieve button, again highlighting one or more selections. Usually you will only be working on one selection, but TuneBuilder gives you the option of retrieving one or several—another timesaver. This step digitally transfers the selection from the CD-ROM to your hard drive. No analog degradation here!

## **Automatic Editing**

Now this is where the fun begins! Go to the editing screen by pressing the TuneBuilder button. You will see a waveform version of the tune you loaded, ready and waiting for you to apply your considerable editing skills. Press the Generate button, and TuneBuilder automatically builds a tune of the length you have specified.

TuneBuilder's tune has a clear beginning, a smoothly flowing middle and a definite, well-designed ending. All the pieces fit together seamlessly like they were put together by an expert music editor. In fact, experienced music editors spent long hours coming

up with the correct edit points so wouldn't have to.

Now that TuneBuilder has built your new composition, simply press Play New, and voila!you are listening to your new masterpiece. Don't particularly like it? Hit Generate again and you have a new version. Do this as many times as

you like (up to 200 for each length specified) until you come up with a version that suits you. If you find a version that you really like and it is not quite the right length, simply type in your new specified length and hit the return key. Your new version-longer or shorter-will have the same musical elements as the first, only it will now be the correct length.

Of course, if nothing that TuneBuilder composes suits you, you can use the program as an efficient cut editor. (Refer to the procedure described in detail by Burt Wilson in April's VTU.)

## Tunebuilder and the Flyer

The next question is, now that I have exactly the tune that I want, how do I get it into my video editing program—specifically my Toaster/Flyer? Here we go through a little good news/bad news. The bad news is that the you really cannot use the music as it plays from your Amiga's hard drive. Our Amiga's are wonderful machines, but without optional audio cards, they can only play eight bit audio. Eight bit audio has a theoretical

signal-to noise ratio of -48 dBS and is good enough for audition and editing purposes, but quality-wise it sounds like an AM radio. To really use your new music it must be exported into a format that can play either 12-bit or 16-bit audio.

Twelve bit audio has a theoretical maximum SNR of -72 dBS and sounds like a high quality reel-to-

"Now that TuneBuilder has

built your new composition.

simply press Play New, and

voila!—vou are listening to

your new masterpiece."

reel tape deck or FM radio. Sixteen bit audio's theoretical maximum SNR of -96 dBS can be compared to a CD player or DAT. Either of these would be perfectly acceptable for recording finished tune to your master tape.

Now for the good news! You can transfer the 16-bit version to your Flyer. For-

tunately Tunebuilder has already generated 8-bit and 16-bit versions of the tunes you selected when you hit the retrieve button. The 8bit file is easy for the Amiga to

work with and is made specifically editing purposes. The 16-bit version is the file you will use for your finished production. The audio formats of most interest to Amigans will be 8SVX (standard IFF Amiga 8-bit), dual left and right AIFF files (Studio 16 sound cards. Sunrize AD1012 and AD516), and MAUD, (IFF format used by the Toccata audio card). The remaining 13 formats are for Sun, Mac, SGI, DEC, and Intel PC platforms. There

is currently no provision for exporting TuneBuilder audio files directly into the Flyer. But, there are two ways available to accomplish this task. The first requires hardware, the second method uses software.

The Hardware Option

If you are fortunate enough to already own a Sunrize or Toccata card, you already have the capability to transfer 16-bit files with no additional software needed. For purposes of this article, we will refer to the Sunrize audio card and Studio 16 software, although the Toccata will also work.

First, compose your desired selection in TuneBuilder, then add an extra section a few seconds long to the start of your composition. We usually just duplicate the opening segment once or twice (I'll explain why later). You also must remember that during this step the Flyer cannot be running when you record, as the recording process is too memory intensive for most systems to handle. Now, choose the correct file type for your AD516, AIFF, and press export in the Project builder window. A requester will pop up ask-

> ing you for the save path. rect path (in this case, Destination Drive/Studio 16/Samples) and in Studio 16! Once you have exported the file, quit TuneBuilder, start Studio 16, and start the Flyer. Bring up Flyer's Record screen, and select the audio drive the TuneBuilder selection to go. Now (Amiga M) to Studio 16, select your tune in Open List and hit Play Sample."

for audition and "If you find a version that you Choose the correally like and it is not quite **the right length, simply type** your tune is now in your new specified length and hit the return key. Your new version—longer or shorter—will have the same musical elements as the where you want first, only it will now be the correct length."

Immediately toggle back to the Flyer and push the record button on the screen.

Thanks to our Amiga's multitasking capabilities, Studio 16 will play the selection at the same time the Flyer is recording. The added section at the beginning of the tune allows you to complete the toggling process and still capture the entire piece to the Flyer audio drive. Simply edit the resulting audio clip in the Flyer to remove the extra segment at the beginning. When the selection ends, hit stop on the Flyer record screen and you have just transferred the tune to your Flyer! The transfer is actually digital via analog to digital, but if you use high quality cables and a good mixer (the Mackie 1202VLZ is great for this application) with no noise and lots of input/output capability, you will be unable to discern any degradation in audio quality.

Of course, the preceding requires a bit of time and effort and also requires that you already

"...Audio Black Box...will take your TuneBuilder file, whether it is saved as AIFF, WAV, VOC, AU, RAW, or IFF, and convert it into a Flyer audio clip...With TuneBuilder and Arpeggio at your finger-tips, you'll feel like you have an entire orchestra, with composer, at your beck and call!"

own either a Sunrize or a Toccata card. If you don't and you have to buy one, it becomes a pretty expensive proposition to move those files.

## **Software Transfers**

Now for some more good news! Even as I write this, help is on the way in the form of a software solution. Ray Cronise of ProWave has come up with an ingenuous program called Audio Black Box which will take your TuneBuilder file, whether it is saved as AIFF, WAV, VOC, AU, RAW, or IFF, and convert it to a Flyer audio clip.

With TuneBuilder and Arpeggio at your fingertips, you'll feel like you have an entire orchestra, with composer, at your beck and call!



## EDITORIAL EVALUATION

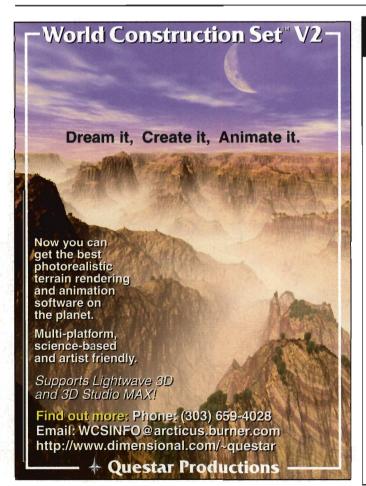
Circle number on Reader Service Card

I found this article:

Very Useful

Circle 045

Useful Circle 046 Not Useful



## MOVING?



Don't leave your Video Toaster User behind!

If you are planning to move, simply affix the mailing label from the front cover of this magazine directly below the bus *and* fill in the coupon below with your new address. Please allow 4–6 weeks for delivery to your new address.

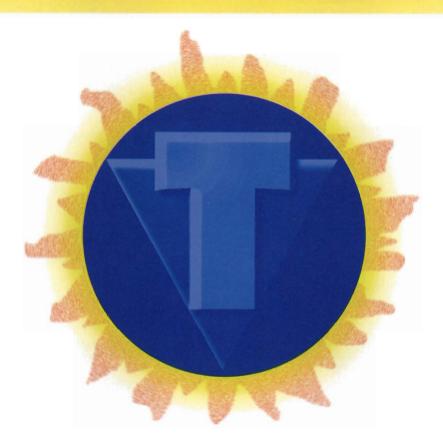
Name

New Address

City, State, Zip Code

Mail to: VIDEO TOASTER USER P.O. Box 54251 Boulder, CO 80322

# See for yourself what the future holds for digital video and 3D animation!



# **UIDEO TORSTER USER EXPO '96**

- Sun Microsystem's Java™
- Intergraph's RenderGL™
- Digital Semiconductor's FX32!™
- Apple's QuickDraw 3D™
- Amiga's 6000T
- Intel's MMX<sup>™</sup> Technologies
- Exhibits: Over 30 vendors showing Video Toaster, Flyer, and LightWave 3D compatible products.
- Specialty Sessions: Digital Technologies on the Internet, 3D in Print, Artists in Action and the Tools They Use.
- NewTek University: featuring training on LightWave 3D, Video Toaster and Flyer techniques.

# Call 1-800-643-3976 to register TODAY!

## NEWTEK UNIVERSITY

Learn how you can make the most of your powerful equipment. Take your pick of Video Toaster, Flyer, and LightWave 3D seminars!

Full Passport **\$499** 

Mini-Passport \$399

**Single Day** 

**Single Class** 

## **REGISTRATION FOR ANY ONE OR MORE CLASSES OR ANY PASSPORT INCLUDES:**

- **Exhibits**
- **Keynotes**
- Grand prize drawings
- **Strategy Sessions**
- **Specialty Sessions**
- LightWave Theater
- Technology Forums: Sun Microsystems, Digital Semiconductor, Apple, Intergraph, Intel and Amiga!

(10% student discount with valid student I.D.)

## **TUESDAY, NOVEMBER 5**

9:30am - 11:30am

- **Beginning LightWave Techniques** Brad Peebler
- \*\* LightWave Modeler Tips & Tricks Jason Linhart

1:00pm - 3:00pm

- **Beginning Modeler Techniques** Brad Peebler
- \*\* Organic Effects Grant Boucher

3:30pm - 5:30pm

- Flying Logos / 3D Logo Basics Don Pence
- \*\*\* MetaNURBSTM & Character Modeling Jason Linhart

## WEDNESDAY, NOVEMBER 6

9:30am - 11:30am

- \*\* Envelopes, Motion Graphs, Keyframing Brad Peebler
- Toaster Essentials: a Beginner's Guide Bob Anderson

1:00pm - 3:00pm

- \*\*\* Character Animation Part 1: Bones Jason Linhart
- \*\* Power ToasterPaint Techniques Bob Anderson

3:30pm - 5:30pm

- \*\*\* 3D Compositing Dan Ablan
- \*\* Video Titling with the Toaster CG -- Bob Anderson





## THURSDAY, NOVEMBER 7

9:30am - 11:30am

- \*\*\* Real World Special FX --- Dan Ablan
- Editing with the Flyer --- Bob Anderson

1:00pm - 3:00pm

- \*\*\* Displacement Mapping & Surfaces Dan Ablan
- Lighting & Camera Angles John Parenteau

3:30pm - 5:30pm

- \*\*\* Character Animation Part 2: IK and Animation Jason Linhart
- \*\*\* Live Taping with the Video Toaster Flyer: An Extended Editing Session Stan Shumlick and Harold Russell

## FRIDAY, NOVEMBER 8

9:30am - 11:30am

- \*\*\* Advanced Logos & Corporate Graphics Stan Shumlick
- \*\* LightWave Plug-Ins: Expanding LightWave with Third-Party Products **Brad Peebler**

1:00pm - 3:00pm

- \*\*\* LightWave Plug-Ins: Real World Uses Jason Linhart
- \*\* Modeling Smart in Game Creation Ace Miles

3:30pm - 5:30pm

- \*\*\* Advanced LightWave 3D: Open Forum Q&A John Gross
- \*\* Time-saving Techniques in LightWave Stan Shumlick

## **SCHEDULE OF EVENTS:**

**TUESDAY, NOVEMBER 5** 

9:30am - 5:30pm NewTek University — Choose from over 24 specialized

classes in beginning to advanced Video Toaster, Flyer

and LightWave 3D techniques.

WEDNESDAY, NOVEMBER 6

9:30am - 5:30pm NewTek University Continues

**THURSDAY, NOVEMBER 7** 

9:30am - 5:30pm NewTek University Continues

9:00am Keynote Speeches

10:00am - 6:00pm Exhibits Open

10:30am Specialty Session: Digital Technology on the Internet

12:00pm Strategy Session — NewTek's Strategic Direction in Video

FRIDAY, NOVEMBER 8

1:00pm - 5:00pm

6:00pm

9:30am - 5:30pm NewTek University Continues

9:30am Specialty Session: 3D in Print

10:00am - 6:00pm Exhibits Open

10:30am Specialty Session: Artists in Action and the Tools They Use12:00pm Strategy Session — NewTek's Strategic Direction in 3D

1:00pm - 5:00pm Technology Forums — Sun Microsystems, Digital

Semiconductor, Intergraph, Apple, Intel and Amiga!

Technology Forums — Sun Microsystems, Digital

Semiconductor, Intergraph, Apple, Intel and Amiga!

LightWave Theater . Wavey's '97 Call to Entry . Drawings

**5:00pm** Grand Prize Drawing! Win a DEC Alpha compliments

of DeskStation Technology

**Grand Prize Drawing!** 

Loaded 500 MHz Raptor ReFlex WorkStation:

• 500 MHz 21164A Alpha Processor Module

2MB Cache Memory

. Multi I/O Sound Card with 16 bit CD Quality Sound

· 4 High-speed Serial Ports

• 2 Parallel Ports

6x CD-ROM

2GB Fast & Wide Disk Drive

Windows NT 4.0

· Keyboard and Mouse

• 64MB Main Memory

PLUS, additional drawings from show sponsors: Intergraph, Viewpoint Datalabs, and more!

Music Bakery

# Come see the newest and greatest in digital video and animation technology from:

Amiga Anti Gravity Zone

Anti Gravity Zone NewTek, Inc.

Apple Nova Design

Carrera Computers One and Only Media

DeskStation Technology OZware

Desktop Images Pinnacle Systems

Digital Equipment Corporation ProWave
Digital Semiconductor Q Technologies

Dimension Technologies Sun Microsystems

Dynamic Realities T.S. Computers
Intel Unlimited Potential

Intergraph VCE, Inc.

LightSpeed Visual Inspirations
MegaGem (current as of 9/4/96)

## **AND SPECIAL TECHNOLOGY FORUMS:**

- Sun Microsystem's Java<sup>TM</sup>
- Intergraph's RenderGL™
- Digital Semiconductor's FX32!<sup>TM</sup>
  - Apple's QuickDraw 3D™
  - Intel's MMX™ Technologies
    - · /Amiga's (60007

## **DON'T MISS YOUR CHANCE!**

See the most cutting-edge new products this year at the 3rd Annual Video Toaster User Expo!

Pre-register and Save:

Pre-registered exhibit attendance includes: keynote speeches, free general sessions, grand-prize give away, LightWave Theater, and two days of exhibits – Only \$20 before November 1! Registration on-site is \$15/day.

 Call Winnett Expo Services to Register:

1-800-643-EXPO(3976) or 1-707-747-4396

Discounted Airfare:

Call Destination Designs - 800-747-4004, and refer to the Video Toaster User Expo '96.

 Discounted Room Rates: Showsite, at the Universal City Hilton & Towers,

Call 1- 800-HILTONS and refer to the Video
Toaster User Expo Group Rate (\$119).

# Roll Your Own

# Making Audio CDs From Flyer Clips

by Douglas J. Nakakihara

rom the day I got my Video Toaster Flyer NLE system, I've been wishing I could use its 16-bit audio capabilities for more than just Flyer projects. My wish was granted with the release of Audio Thunder from Asimware Innovations. This handy product can convert audio files to and from Flyer, CDDA, MAUD (Toccata), AIFF, WAV, 8SVX, and Studio 16 formats. It also features basic audio editing tools like resampling, cuts, mono to stereo fusion, and multiple clip time sequencing.

Actually, Audio Thunder is only half of this story. My real goal was to digitize some music with the Flyer and then make an audio CD. You see, I used to be a musician and have a lot of recorded material on tape. The songs desperately needed to be transferred to CD-ROM—a medium that should out-live me. Accomplishing this task also required Asimwares MasterISO and a compatible CD recorder.

## **Compatibility Issues**

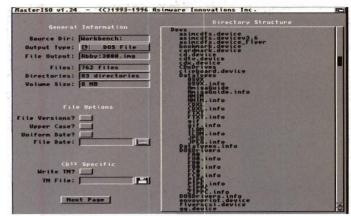
System compatibility is crucial when recording CDs. Your software, computer, CD recorder, SCSI controller, and hard drive must all work in concert with each other. Fortunately, CD-R drives (Yamaha, Philips, Sony, etc.) have gotten better in quality and now work with most SCSI controllers and hard drives. This wasn't the case not too long ago. If you are thinking about adding a CD recorder to your system, I suggest you contact Asimware before you buy anything and ask for some guidance based on what components you already have.

Other MasterISO requirements are 16 MB RAM and 1.3 GB free hard drive space—essentially two CDs worth (650 MBs each) of storage. However, since the Flyer audio drive will be storing the source data, you really only need 650 MBs to do what were discussing here. The system used for this article was an A4000, WarpEngine '040/40, Fujitsu hard drive, and a Yamaha CDE 102 CD recorder.

## **CDDA Format**

The first thing you need to do is convert your Flyer audio clips into CDDA format. This is the format used for Red Book CDs (i.e., good old audio CDs). Each song should be a separate clip. Audio Thunder's simple point-and-click interface makes this a painless task. The processing takes a fair amount of time since you are moving data between Flyer and Amiga drives, but fortunately Audio Thunder supports batch processing. Make sure you save the converted CDDA files to the drive you use for MasterISO and not a Flyer drive. Once you've got your

CDDA files, boot up MasterISO. You can complete the various fill-in data fields if you like, but it is not really necessary. However, I'd at least fill in the volume name field.



The main MasterISO interface screen.

## The List

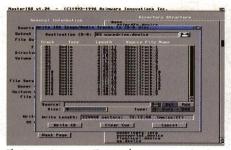
Before you start creating the list of tracks to be included on the CD, I'd suggest you either use a directory utility to rename the CDDA files with some numerical designation indicating the track number, or write the file order on a piece of paper. This will help because each CDDA file will be an individual track and you must add them in the exact play-order. Currently, MasterISO does not have an option to rearrange the tracks once they have been added to the list. (You can delete individual tracks, but you can only add to the end of the list.)

It is extremely important that the file type for each track be set to Audio. Fortunately, you only need to do this for the first track. All subsequently added tracks will default to this setting. You must also be sure the total time does not exceed the capacity of your CD media, generally 74 minutes.

When your list is complete, a simple click of the mouse will set things in motion. Burning a CD, as it is sometimes called, can take a while and depends on the writing speed of your CD recorder. Most affordable recorders are double speed right now, so the process is—not surprisingly—accomplished in about half the play time.

## **Archiving Flyer Clips**

Now, if you are thinking you'd like to store the actual video and audio Flyer clips (or any other data for that mat-



The MasterISO write CD-R window.

ter) on a CD, you need to create an ISO 9660 disc. This format is pretty much the standard used for data-type CDs. As you might expect, MasterISO handles the creation of these as well. The steps are very similar to the ones used to create an audio CD, but there are some additional intermediate steps required.

Just as audio needs to be in CDDA format, data files also need to be in a special format. Essentially, all of the files and subdirectories that you specify get grouped into a single "image" file. It is kind of like what happens when you archive files with ZIP or LHA, but without the compression. Note that only one of these image files is used per CD.

Before you create the image file, you must catalog the files you want included. Do this by specifying a source (e.g., volume, device, directory, etc.) with MasterISO. Note that all subdirectories below the directory you specify will be included as well. As such, if there are files you do not want included, you'll have to move them somewhere else so they do not get picked up.

You can specify additional sources, but these are "mapped" on top of any previously cataloged sources. That is, they are treated as if everything existed on the same volume. This means that you cannot have duplicate file/directory names at the same relative directory level. For example, if you were processing two hard drive partitions and each had a file called disk.info in their respective root directories, you would get an error message. This can be somewhat of a pain if you have a lot of duplicate names.

## **Imaging That**

Once you've finished the catalog, you can create the image file. The image file can be written directly to a

storage device or saved as a normal DOS file. If your system is up to it, I'd recommend the DOS file method, as it does not require you to dedicate an entire hard drive to MasterISO use. However, the device method is inherently faster since it bypasses the Amiga file system and its use may be required, depending on your hardware setup. Beware: The program gives you absolutely no warning if you have it set to the device method You will destroy all of the existing data on that device. (I know, I did it!)



The Audio Thunder convert audio files window.

The device method may also be helpful if you want to mass produce a CD. The user manual indicates that you can turn the physical hard drive over to a CD replication house and they will be able to use it as a master. It seems to me it would be easier to



The main Audio Thunder interface screen.

just give them the CD, but I've heard that sometimes these places have problems reading home-made discs.

Once the image file is created, you simply add the file as Track 1 and set its type to Data (Device or DOS file). MasterISO also gives you the ability to mix Audio and Data tracks. For such a disc, the dataimage track must be Track 1. Subsequent tracks can be CDDA audio files. It is possible to create data tracks after Track 1 with

MasterISO, but it is unlikely any system will be able to read the resulting CD.

## **Reading Audio CDs**

To make full use of your CD recorder, I'd also highly recommend Asimwares AsimCDFS. Among this CD file system's many incredibly cool features is one that lets you read the tracks off an audio CD as if they were regular files. Not only that, you can (transparently) read them as CDDA, MAUD (Toccata), or AIFF format. You can also read an entire ISO 9660 CD as an image file.

With AsimCDFS and Audio Thunder, you can digitally transfer audio from a CD to your Flyer. This yields a much cleaner audio clip than otherwise possible. The reason is that when you record CD audio conventionally, the digital audio information gets converted to analog, is transferred along the cables, then is converted back to digital. Each one of these steps introduces its own level of noise and signal degradation.

Well, thanks to Audio Thunder and MasterISO, my musical creations are preserved for the rest of my life (and longer). Furthermore, in theory, I don't even have to worry about CD players becoming obsolete. The digital data should be convertible without ever degrading the quality. Peace of mind at last!

## **Products Mentioned:**

Audio Thunder, \$99 MasterISO, \$199 AsimCDFS, \$79

## **Company Mentioned:**

Asimware Innovations Inc. 600 Upper Wellington St., Unit D Hamilton, Ontario, Canada L9A 3P9 (905)578-4916 info@asimware.com http://www.asimware.com

Douglas J. Nakakihara owns Electrical Language, a production company in Simi Valley, CA. Reach him on-line at djn@ix.netcom.com.

# Circle number on Reader Service Card I found this article: Very Useful Useful Not Useful Circle 048 Circle 049 Circle 050

# Surfaces and Decals

# Just Like Those Old Toy Models

by Brad Hayes

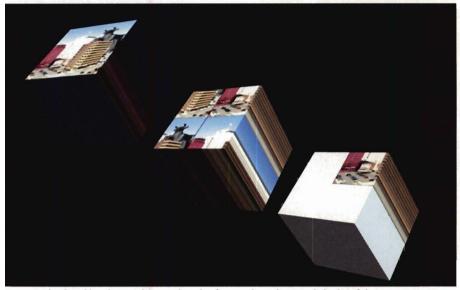
uch has happened since I last had the opportunity to pen a tutorial for you. Of course, the release of LightWave 3D 5.0 may be the most significant, at least for me. There are many new features and lots to talk about. First let's talk about surface mapping and decals. Decals are a new concept to LightWave, but I'm sure that most of you are quite familiar with them. If you ever built a plastic model when you were a kid, you'll remember soaking little bits of paper in water and trying to get the them to stick to your model without folding over or tearing. Whether they were flames on the side of a race car or the numbers on the tail of a fighter jet, these add detail and realism to the model.

LightWave has always provided ways to add detail to your objects through the use of image maps. Wouldn't it be easier if you could place them like the decals you put on plastic models? Now, with new features in LightWave 5.0, you can. (*Do not* try to soak any part of your computer in a glass of water during this tutorial—that would be bad.) I'm going to give you a step-by-step guide to placing decals. But first I want to talk about how LightWave deals with Image Maps. From this moment on, I don't want you to think of images in LightWave as 2D planes—they are 3D volumes no matter how they are mapped. Oh sure, don't believe me? I'll prove it.

## A New Kind of Toy Model

In Modeler create a default cube one meter square. Export it into Layout, then load any old image you want. I happen to be using the "GiantCow.IFF" image that is in the images directory. Go to the surfaces panel and under the Color Texture Panel, Planer Imagemap this image on to the cube in the Y-axis, and Auto Size it.

Rotate the cube by H45, P-45, B0, then Render. What you'll see is a corner of the cube and the image on the upper left face. You'll notice the other two visible sides have some sort of horrible color streaking. Look closely at the color streaks, and see that they match the image map where it meets the edges. The streaking is the extruded sides of the image intersecting the polygons that share that surface name. The image is projected along the axis of orientation, and will



little bits of color and text helped you to add detail and realism to the model.

Figure 1: That horrible color streaking on the side of your cube is the extruded sides of the images intersecting the polygons that share that surface name. It will continue along that axis forever.

continue along that axis forever, visible anytime that it intersects a polygon with that surface name.

You can alter the location of the image map in space by the "Texture Center" feature. When you use Automatic Sizing, LightWave automatically centers the image map to the area of polygons with that surface. Change the texture center to 0.5, 0, 0.5 (changing the Y-axis will have no effect since the texture travels along this axis forever) then render. Now you will see the image checker boarded on the top polygon. It slid one-half meter to the right and one-half meter back (up). The result is that the center of the image is now exactly on the upper corner. And since LightWave tiles the image by default, you see the repeat of the image around the original.

Go back to the color texture panel. Turn off Width Repeat and turn off Height Repeat. Re-render. Now you will see just the image squarely in the corner of the cube. You can now begin to visualize the image as a volume. This image as volume concept holds true when using Cylindrical Imagemapping, or Spherical Image mapping as well, but that's another article.

## **Object Please**

Now how does all this help you put a label or a decal on an object? Chances are that unless the cubists movement makes a return to 3D graphics, your objects will be a bit more complex than the box we have been using. A while back, I created a kitchen spray bottle for an animation. The

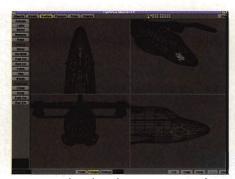


Figure 2: Unless the cubists movement makes a comeback, you'll need to use a more complex object.

model needed an image-mapped label on the front and back of the bottle. Here is how I placed the label exactly where I wanted it, and to the size and shape that it needed it to be.

Since I had used an actual bottle as a model for my object I knew the shape the label needed to be. I created a closed curve in Modeler. Then froze it (ctrl-d) into a polygon. I took the polygon and loaded it into layout. When I rendered the image, it gave me a perfect template for creating the label. Since you don't have my bottle object, we'll run through the process, step by step with an object in LightWave's content directory.

## Time for Take Off

- 1) Load the object you want to apply a decal to, into layer one. In this case I'm going to use the "Smallplane.lwo" that comes in the aviation directory.
- 2) Model a single polygon in the shape and size of the decal that you want on your model. Place it in layer two.
- **3)** Place the decal polygon where you want it to appear in relation to the plane. Because you're going to planar map the image into place, the polygon must be perpendicular with the axis your going to map on. With the plane, we're going to map it in the X axis.
- **4)** Give the decal polygon a unique surface name like "Decal," and export the decal polygon to layout and set the surface attributes as follows: Color 255, 255, 255 Luminosity 100% Diffuse 0%. Leave all other settings as default.
- 5) Set the Background color to 0, 0, 0.
- 6) Zoom in as close as you can to the polygon, but make sure that you do not crop the edges of the shape. You must leave at least one pixel of black around the entire outside edge of you shape.
- **7)** Render and save the image. This will be you template image.

- **8)** Load the image into your favorite image editor.
- 9) Crop the image as close to the edges as you can (to within one pixel), without cutting them off. You could also do this with the "Limited Region" feature on LightWave's camera panel, but that can be a pain.
- **10)** Save the cropped version with a new name like, "DecalAlpha." This will be your Image Alpha Channel, and give shape to the final decal.
- 11) In the image editor, use the new cropped version as a template to create the actual color image that is to be your decal. As you paint on top of the template image, don't worry about staying within the lines. Your Alpha Image will crop off any color-map data out side of its shape.



Figure 3: Use the new version as a template to create the color image for your decal.

- 12) Save the color image under a new name like "DecalColor." Once you have your images done, the hard part is behind you. The next few steps will place the "Decal" on your object exactly where you want them.
- **13)** Load the small plane, and the decal polygon object, and both the alpha and color images into layout.
- **14)** If you have already set surface attributes on the surface the decal is to appear on (as in this case), first copy those attributes to the "Decal" surface by:
  - Selecting the fuselage surface.
- Render the surface to the surface render test strip.
  - Select the "Decal" Surface.
- Click the Surface render test strip image.
- **15)** Now, go to the Color Texture Map panel for the "Decal" surface, map the color image onto the polygon in the X axis and Auto Size it.
- 16) Load the black and white version as the alpha channel for this image. The alpha image will be applied with the same size and placement as the color

image. There is no need to re-auto size.

- **17)** Do a Surface Panel test rendering of the "Decal" surface. Copy the new surface attributes of Decal to the fuse-lage surface, by clicking the test render image strip.
- **18)** Render the scene. If your object is larger than the decal, you will see the decal covering your object.
- **19)** I'm sure that you only need the one copy of your decal, so back to the color texture panel. Turn off both width repeat and height repeat.
- **20)** Re-render the scene. Now you will have a perfectly placed decal.
- **21)** If you need the decal area to be (or not to be) effected by the other attributes, like specularity reflection or bump, use the Alpha Image to mask off that area. You now have the image size and image center info that you need.

Because the image has volume behavior, you still have one small problem to deal with. The decal will penetrate to the other side of the object, and be backwards there. This can be fixed easily. Give that half of the object a new surface name, like Fuselage\_left. Copy the attributes to the new surface. Then in the Imagemap Panel select the Image size in the axis that is backwards (in our case it would be the Z axis) and invert it to make it a negative number. If it is 1.6, make it -1.6. this will reverse the images map and display it correctly.

Finally, because of the unlimited texture layering, you can now add as many decals to your object as you need to. If you are making a racing car, a jet fight-



Figure 4: Do not try to soak any of your new LightWave decals in water. That would be bad.

er, or a space ship, this can give your objects that extra dash of reality.

Reach Brad Hayes on-line at 71241.1651@CompuServe.

# Back to Back Ups Developing Good Back Up Habits

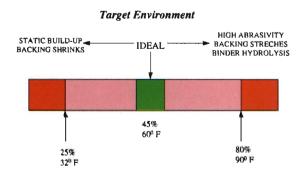
## by George Paramithas

ere we are, once again trying to sort out fact from fiction about tape storage devices and the media associated with them. Let me begin by saying that this is not a trivial subject, especially when many people successfully back up data or Flyer clips—even when they do everything wrong. If you do not maintain the right environment or do not develop a reliable procedure for backing up data, you will sooner or later suffer a loss or unreliable project restoration. The fact that we may be successful now and then is due to lady luck and the generosity of design engineers who try to build more reliability into their tape drives

## **Getting it Straight**

than they are required to deliver.

There are four major parts that comprise a back up drive. The media, the head assembly, the electronic components and the power schema. All of the above sub-assemblies are susceptible to environmental changes, but the first two can be adversely effected more easily than the later. It has been



This chart illustrates the target environment for your back up media.

my experience that 99 percent of the time, it is the tape or the heads that will cause a drive's unreliable operation. If the heads get partially clogged with foreign matter or tape particles, you are in for a lot of dropouts/BER and heartaches.

A dropout occurs when something causes a head-to-tape separation during record or playback. This condition can be caused by anomalies on the surface of the tape, physical damage to the tape, or poor head-to-tape intimacy. A dropout can be defined as a Spacing Loss = 55d/l. Spacing loss is the amount of RF envelope loss, d is the distance of

the spacing between the tape and the recording head, and I is the wavelength being recorded and/or reproduced. That's all well and good in analog recording, but in digital recording the matter is a little more complicated. A tape with many dropouts will certainly produce high Bit Error Rate (BER is the measure of a recorder's performance) but a tape with low dropouts does not necessarily guarantee a low BER.

## **Control Your Environment**

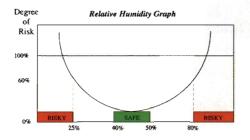
To put it simply, if you want to eliminate the majority of failures, store your tapes in a controlled environment at all times. A tape's *Enemy Number One* is humidity, especially condensed humidity. It will ruin good quality media quicker than anything else, (excluding violent explosions). Last year, I tried to shoot an interesting neighborhood early in the morning in New Orleans, La. It must have been over 100% humidity, if that's possible, because condensation was everywhere. When I got back to my studio I discovered that I had nothing but dropouts—useless footage.

With that in mind, keep your operating environment dry, making sure you maintain a non-condensed humidity range of 40 to 50 percent (storing tapes in the bathroom is therefore out of the question). If the range gets below 30 percent, you can get static build-up and the tape backing can shrink, while above 55 percent you are likely to get high abrasivity, binder hydrolysis and the tape backing can stretch. I know that's a tight humidity range, but it is also the optimal solution for your tapes.

Temperature is another factor that can adversely contribute to unreliable operation and should preferably be kept between 55 and 70 degrees Fahrenheit. Remember the old saying, "if it is comfortable enough to wear a sweater in your studio, it is comfortable enough for your tapes." By keeping the storage and operating environments constant, you can reduce media exposure to stress induced by vacillations in temperature and humidity. When you need to recover clips to your Flyer drives, you should allow at least 24 hours for temperature stabilization if the tapes are taken from a different environment. In addition to the above, never store your tapes near a magnetic field, even though I must say that accidental erasure is highly unlikely.

## Keep It Clean

Tapes with 8 mm metal particles have a coercivity of 1500 oersteds, which is high enough to resist transformation of the recorded magnetic particles if accidentally exposed to magnetic fields. As a result, you don't have to worry about metal detectors at airports, X-rays or even nuclear radiation! Keep take-up reels in the up-right position and always rewind the



This graph illustrates the optimal relative humidity ronge for your back up media.

tape before and after long storage. This helps alleviate pack tension. The Flyer with the 8505 Exabyte tape drive performs the tape rewind task automatically after back up completion, so you don't have to specifically worry about it. In general, these are good rules to follow for your video and audio tapes as well as your data tapes.

Always keep in mind that most tape storage devices were originally designed to operate in tightly controlled computer environments. In order to avoid paper and toner dust, do not locate your tape drive near these machines. For best performance, try to hold your studio or work environment to the same high standards as those of the big boys. It will definitely pay good dividends. I once visited a Sony facility in Colorado and was astounded by the meticulous maintenance of the building. You could not find a spec of dust even if you wanted to. There were workers dusting and sweeping constantly, the whole time I was there and it was a fine example for everyone to follow. For long term storage, it is also good practice to place your tapes in a polyethylene bag to further protect your precious work.

According to Exabyte documentation: "Operation without cleaning the tape drive heads will result in accumulation of deposits which can become burnished into the tape path. If this happens, cleaning tapes will not remove the deposits. As a result, factory cleaning may be necessary, a more costly process than cleaning tapes. Many video cleaning tapes literally sand away the contamination. In 8 mm tape drives these cartridges abrade the read/write and servo heads and reduce drive life. They also create particulates and do not necessarily remove contamination.

nants. Cotton or foam swabs, which in the least involves opening the drive's door, can add contamination and may literally break the read/write heads, thus voiding warranty. Regular cleaning with an Exabyte Cleaning Cartridge, (a one pass process) can prevent deposit build up, as well as maintain the tape path and read/write heads in clean condition."

In the past, the American Institute of Standards and Technology (AIST) recom-

mended that all magnetic tapes that were destined for long-term storage be first pre-conditioned and then periodically exercised, at least on an annual

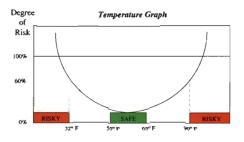
basis. To pre-condition a tape, write and read the tape from beginning of tape (BOT) to end of tape (EOT) then back to BOT using normal operational tape speeds while gathering error statistics, if possible. This should be done at least four times, but not more than 20 times. But another document recently published by AIST reversed the above recommendation. This time they insist that these increased operations, and especially regular exercise, could possibly result in permaner.

could possibly result in permanent tape damage or data loss. Most users like you and I did not follow the original recommendations and as a result experienced fewer problems. Go figure!

## The Right Stuff

Many of you also asked about the possibility of using less expensive 8 mm video tapes in place of data grade tapes. Let me sum it up by saying that the only point of commonality between the two grades is that they are both the same physical size. Other than that, you are dealing with all together different animals. For example the formulation (composition and structure), film thickness (substrate), tape length and cartridge construction (resistance to contaminants) can vary widely. The video tape is designed for video recording while the data tape is designed for data recording. The two should not be interchanged because this can lead to many problems. Your back up drive is designed to read and write 8mm particle tapes. When it records your flyer projects, it is asked to perform readafter-write data verification, then rewrites every block of unreadable data. In this manner your drive ensures that the recorded data is not only correctly written but also readable somewhere on the tape.

As you can imagine, this process is difficult enough to perform without complicating the matter by introducing media errors or a high rate of dropouts into the equation. Using poor quality media can cause tape capacity loss, slower data throughput, reduced long term archivability, lower data integrity and reduction in tape re-use. But if you won't take my word for it and want to experiment, remember not to use metal evaporated (Hi-8ME) or barium ferrite



dation. This time they insist that Temperature is another major factor in successful back ups.

(BaFe) tapes. These two types are a nono. The least you can do is use metal particle tapes (Hi-8MP). Also, longer video tape lengths of up to 180 minutes do not mean longer data storage on your backup drive. Don't be fooled by video recording time.

When using an Exatape, the official media recommended by Exabyte, you will improve read, write and servo head life while lessening the degradation of the magnetic qualities (i.e. metal particles) of the tape after prolonged storage since it offers the right performance, reliability and archivability. The metal particles used in the magnetic coating of this tape are encapsulated and protected for slower degradation. A uniform recording surface helps ensure dependable recording and preservation of the stored data for an extended shelf life. Exatape's archival/shelf life for example is estimated to exceed 30 years if it is stored properly. This is an impressive figure to say the least. I don't think that any of us will want to store our flyer projects for that long a period, but it's great to know that you could if you choose to. Especially when it comes to that demanding client's who loves to change his project on you every six months, just a little bit at a time. Why recreate unnecessary work? Simply bring back the project last saved from your backup unit into your Flyer drives and make changes without frustrating delays or extra work. The client is happy, you're happy and your computer and backup drives are working as they should.

## Make A List

I also strongly believe in check lists. I know that everyone is pressed for time, but if you habitually follow the same procedure every time you back up, it will eventually become second nature. Not only will you perform the task faster but you will perform it better. So, I suggest that you precisely document your back up methodology the first few times. Keep a notebook and write down in detail what the Flyer does, what the back up drive does and how long it takes it to do it. In the same

"...precisely document your back up methodology the first few times. Keep a notebook and write down in detail what the Flyer does, what the back up drive does and how long it takes it to do it. In the same notebook, create a section to keep a detailed record of the proiects stored."

notebook, create a section to keep a detailed record of the projects stored. For example, the project length, the drive the clips were stored in and the size of the raw clips can all be good information to have at a later date. Writing the project name on the tape is good for quick reference only. It is much more desirable and useful to refer back to your detail list prior to restoring your projects, in order to place the clips in their original location. This will prevent the dreaded message "can't find flyer clip" etc. Doing it right the first time will eliminate the need of having to move the clips from one drive to the next. If you have any questions or suggestions I would love to hear from you. 'Til we meet again, happy Flying.

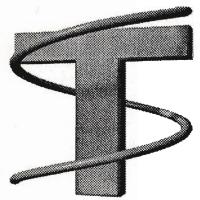
Reach George Paramithas on-line at gparamit@pluto.colsa.com

## EDITORIAL EVALUATION

Circle number on Reader Service Card

I found this article:

Useful Very Useful Circle 054 Circle 055 Not Useful Circle 056



# T.S. Computers

(818) 760-4445

11300 Hartland St. North Hollywood, CA 91605 WWW.vgn.com sales@vgn.com RENTALS

SALES **SERVICE SUPPORT** 





Digital Video **FIREWIRE** TO FLYER!

We do it all!

# EALL 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.

Check out our entire catalog instantly. Includes current prices & full descriptions. Find out what's hot and what's cool on our award winning web site.

Surf SAFE HARBOR at WWW.sharbor.com







Specialists in desktop video since 1987





## 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/i Browse Bundle ......89.00

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.

Adaptec 2940

Adobe Premiere 4 2

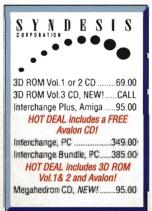
Cinema 4D w/MagicLINK .....239.00

## Macro System

Movie Shop F/X Disk #3119.00
Retina Z2 4MBCALL
Retina Z3 4MBCALL
Retina Encoder Int69.00
Retina Encoder Ext139.00
Retina Z2 4MB/EncoderExtCALL
Retina Z3 4MB/Encoder IntCALL
Toccata 16499.00
VLab Motion1699.00
VLab/Toccata Bundle2095.00
HOT DEEED cove \$100 with

## HOT OFFER save \$103 with our bundle!

VLab Y/C Ext	529.00
VLab Y/C Int	489.00
VLab/Toccata/Z2	CALL
VLab/Toccata/Z3	CALL



# PRODUCTS

299.00

525.00

Adduct Flemlere 4.2	.525.00
AudioTRIX Pro	.279.00
AV Master, Fast	.899.00
Bravado 1000 PCI	.869.00
Director 5.0, CD,	.888.00
Fractal Painter 4.0,	.355.00
Hollywood F/X Intel / DEC	.735.00
Martin Hash's 3-D Animat	ion
Master Pro	.550.00
Martin Hash's 3-D Anim	.185.00
Media Paint	429.00
Media Studio Pro 2.5	.279.00
Millennium 2MB PCI	.245.00
Millennium 4MB PC1	359.00
MiroVIDEO DC30	949.00
MiroMedia Recorder	349.00
Scala MM100	.239.00
20.00	

Media Studio Pro 2.5	279.00
Millennium 2MB PCI	245.00
Millennium 4MB PC1	359.00
MiroVIDEO DC30	949.00
MiroMedia Recorder	349.00
Scala MM100	239.00
Snappy Video Grabber	179.00
SoundBlaster AWE 32	225.00
Sound Forge XP	92.00
Sound Forge 4.0	309.00
Tahiti, Turtle Beach	249.00
trueSpace2 2.0	
Video Action Pro 2.0	259.00
Video Action Pro 2.0 / 3D	Effects
Bundle	375.00
Video Action NT	740.00
Video Action NT Bundle	859.00
Winimages Release 4 CD	279.00
Winimages Win95	109.00
Winimages Wind 3.12	139.00

## REMOVEABLE MEDIA

>	Iomega JAZ Drive 1GB SCSI-2 Ext	499.00
ES	Iomega JAZ Drive 1GB SCSI-2 Int	395.00
$\geq$	Iomega ZIP Drive 100MB SCSI Ext	199.99
DOR	Micropolis 1991AV 8.9GB FSCSI 5.25"	CALL
6	Micropolis 3243AV 4.3GB SCSI 3.5"	CALL
HAR	Micropolis 4221AV 2.1GB SCSI 3.5"	CALL
X	Syquest EZ 135M Ext PRICE REDUCED!	139.00

## **HOT** AMIGA PRODUCTS

A1200Call
Boing Optical Mouse74.99
Diavolo Backup Pro98.00
Dlavolo Backup Standard 69.00
Monument Designer249.99
Octamed Soundstudio35.00
Scala MM400389.00



Perception NTSC PC ......1595.00 Perception Capture Card ...859.00 Perception/Capture Card

Bundle......2369.00

HOT DEAL-Save \$85.00 when

## you buy both! Perception A4V ......1229.00

Perception F/X Accel	799.00
Perception Riser PCI	75.00
Perception/Video Action	n Pro
Bundle	2569.00
Personal Animation	
Recorder, Amiga	1549.00
Personal TBC IV	795.00
Personal TBC IV Plus	1229.00
Personal V Scope	789.00

## NEWTEK

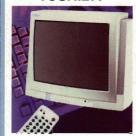
LightWave 5.0 Amiga779.00
LightWave 5.0 DEC1229.00
LightWave 5.0 Intel1065.00
LightWave Upgrade 4-5.0

Amiga	289.00
DEC Alpha	489.00
Intel	449.00
Toaster 4000	2150.00
Toaster Flyer 4.0	3999.00
Toaster 4.1d Upgrade	CD489.00

We have gov't/educational pricing available too!

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 returnal able. Shipping charges not refundable. Non-defective returns subject to a 15% restocking fee-Not responsible for toxpos. Prices subject to change.

## **TOSHIBA**



## MM-20E45 20" TIMM Monitor.

This is the perfect multimedia monitor with built-in stereo, 181 channel tuner, S-VHS and Composite inputs. Call for pricing.

## LIGHTWAVE RELATED PRODUCTS

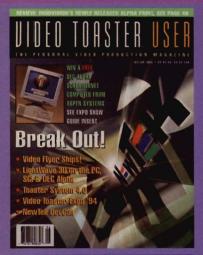
Audio Thunder	69.99
Batch Factory, Amiga	59,99
Co-Pilot Video, Amiga	99.00
Control Tower, Amiga	.199.00
Decision Maker, Amiga	.299.00
Fiber Factory, Amiga	67.99
Fiber Factory, PC	95.99
Flite Gear 4000, Amiga	.160.00
F/X Kit for Lightwave	29.00
F/X Kit Addendum 5.0	19.00
Hollywood F/X, Amiga	.245.00
Humanold PC/Amiga	.160.00
ImageMaster RT, Amiga	49.99
Light ROM Vol. 3 CD	
Lock & Key, DEC	.319.00
Lock & Key, PC/Amiga	.219.00
MeshPaint 3D DEC Alpha.	.525.00
MeshPaint 3D 1.5 Intel	.425.00
Particle Storm CD, DEC	.299.00
Particle Storm CD Intel	
Radar 4000, Amiga	
Scene Machine CD, PC	
Sparks 1.02 CD Intel	
Surface Pro/LightWave	
Universal 3D CD	
Vertilectric	
World Construction Set	CALL



W226 N900 EASTMOUND DR., WAUKESHA, WI 53186

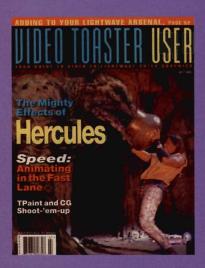
# YOU GANGO

WITH VIDEO TOASTER



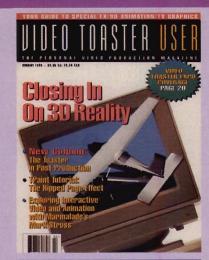
## December/January 1995

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



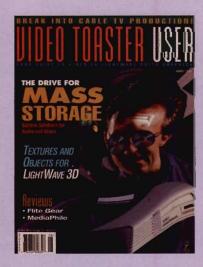
## **July 1995**

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



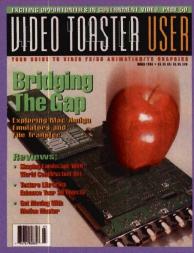
## February 1995

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



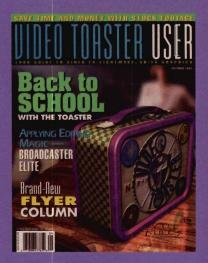
## August 1995

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

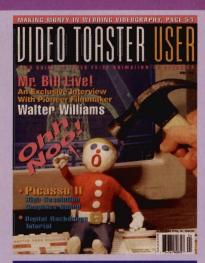
## Each issue - \$10

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.

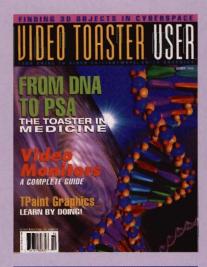
# BACKINTIME

**USER BACK ISSUES** 



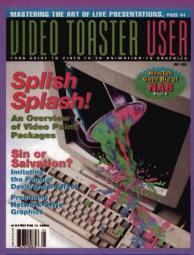
## April 1995

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



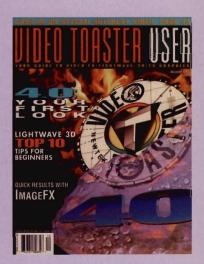
## November 1995

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

# The Great Frame Up Maximizing Framegrabs for Photo Prints

by Brian Hartnell

ideographers are always looking for new ways to make money from their video projects, and developing the market for negatives and prints from your framegrabs is a great way to generate additional sales within your own customer base. Newlyweds, businesses and other customer trade always have the potential for needing photographic print output from scenes you have created. They just don't know that this service is available, and it is up to you to fill that niche market with your expertise.

to make this image workable for a photographic print. It won't be quite the magic trick Hollywood would have you believe, but you will be able to produce some very salable prints.

## Plan Ahead

By modifying your shooting techniques with framegrabs in mind from the beginning, you can make every pixel work to your advantage. A computer generated image (bitmap) is created using a series of rec-

"Standard NTSC Video Framegrabbing resolution is 72 dots per inch (dpi). When you com- to 640 X 480 pixels pare the fact that a 35 mm film frame has roughly three million pieces of silver to allow it to record detail, you can see that the video inch (dpi). When framegrab has 1/10th the ability to record detail of silver to allow it

The Basics of

The most common framegrab bitmap sizes range from 752 X 480 on an Amiga on a PC or Mac. Total pixels available for image detail are 360,960 and 307,200 pixels, respectively. This is derived by multiplying the height times the width to give you the total number of pixels used to create the image. Standard NTSC video resolution is 72 dots per you compare the fact that a 35 mm film frame has roughly three million pieces to record detail, you that film does." can see that the video framegrab has 1/10th the ability to

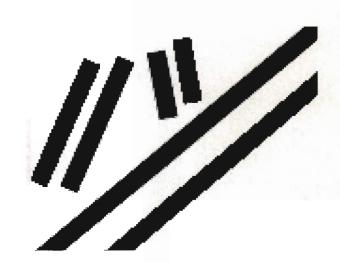


Figure 1: The dreaded jaggies of aliasing.

tangular pixels for the Amiga and square pixels on the PC and Mac. These come in multiple colors depending on the subject matter (Figure 1). Anytime you place square pixels together at angles you see the dreaded jaggies, called alaising. Alaising occurs due to gaps between the edges of the pixels. The computer tries to minimize these gaps by anti-alaising, filling the spaces in with intermediate colors to create an artificial smoothing effect to any line edge. Take a look in your paint program using the magnify tool at any edge. You will see the edge softening done by anti-alaising (Figure 2).

Anti-alaising robs you of precious pixels in favor of making everything look smooth. If you start off creating the image with a limited number of pixels, the

record detail that film does. If you watch TV detective programs, you frequently see some amazing scenes where the hero pulls super sharp details from very poor videotape footage (of course taken at night in an unlit corner of some alley). But reality strikes when we use the NTSC environment, though there is a way best way to maximize images are to grab scenes where the subject is relatively large in the frame. Here the subject is using the maximum number of pixels to render fine

detail within the subject matter. Antialaising still occurs, but is minimized because many pixels are devoted to the subject. Wide landscapes and large groups of people objects will be unrecognizable you when enlarge the image through the magnify mode or create negatives, because there are so few pixcreating

detail to each of the small objects. At this point, anti-alaising is also quite degrading to the small objects because it represents so few pixels.

## The Importance of Print Size

The size of the print being created from your grab is important as well. The larger the print made, the more noticeable any antialaising or image flaws created in the NTSC environment will be. We have found with 640 X 480 framegrabs, a 4" X 6" print is a good size. It is large enough to offer a nice album print, but small enough for the 307,000 pixel bitmap to offer photo quality.

Of course, everything, including framegrabbers, have exceptions to the rule. The Amiga Video Toaster, PAR Card, and Perception boards grab images to 752 X 480 pixels. They create images in NTSC pixel shape (rectangular) and after they are corrected to square pixels by a service bureau, will conform to the standard that 640 X 480 bitmaps do. If your service bureau is not correcting your Amiga or NTSC pixel image to square, you will see a definite distortion in the image.

Some framegrabbers on the PC market (Win Vision Pro and Snappy) offer 1280 X 960 to 1500 X 960 pixel bitmaps through interpo-

"The larger the print

made, the more notice-

able any antialiasing

or image flaws created

in the NTSC

environment will be."

offers number der port volume image.

The followassure a high-

er quality result and a pleased customer.

lation.

bitmap with four times the pixels to renimage detail. Bitmap images this size will suplarger prints than the 640 X 480. due to the pixels available in the

ing are simple rules of thumb and by adjusting your techniques, will

or less cameras and playback decks.

6) If the lines of resolution of your camera, tape format or video deck equipment will not support fine detail, stay away from scenic views or group shots with five or more people.

7) Tape type and size will vary the quality with 8 mm as the lowest and Beta the highest.

8) First-generation tape grabs are always better but are dependent on the camera resolution, lighting at the scene and quality of framegrab technique used.

9) Enhance the apparent quality of a framegrab by keeping print sizes smaller.

10) The higher the camera resolution, tape format, quality of lighting, subject size and stability of your equipment, the more you can veer away from the general rules.

## **Bitmaps**

Placing a framegrab into a much larger bitmap also will increase the pixel count and allow you to go to much larger print sizes. The illustrations of the Senior portraits were done using a combination of framegrabs for the faces and flat

## Top 10 Tips for Success

Here are some simple steps to ensure success in transferring your framegrabs to photographic prints.

1) Pre-plan your framegrab at the shoot and make sure to fill the video frame with your subject.

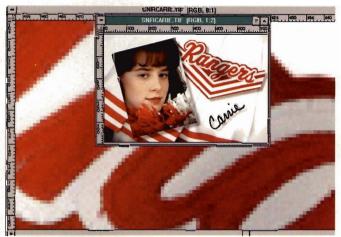
2) The higher levels of brightness lighting the scene,

the sharper the camera iris settings.

3) From tape, grab images with large head sizes or upper torso's of subjects.

4) Re-grab the frame if you see any jitter in the image.

5) Cameras with 450 lines of video resolution and better will produce much more detailed scenes than the consumer 230 line



for Figure 2: Antialiasing smooths out the jaggies.

bed scans for the backgrounds. The pixel bitmaps were designed as 2048 X 1366 pixel size to allow us close to the number of pixels that would equal the number of pieces of silver on the 35 mm frame.

"Some videographers are offering a turnkey service by grabbing their frames and supplying finished prints from their scenes.

Others find it easier to charge by the hour for the grabs and send the client to our lab for negative imaging and prints."

Cania

## More Tips and Third-Party Helpers

By using paint programs such as ImageFX, Photoshop and any others that support super bitmaps, you will be able to incorporate the mixture of scanned art and framegrabs. All the tips listed above will work on either Super bitmaps or framegrab image sizes.

You will have to make the decision of what technique and sizes work best for you. If your media is predominantly video you should stay with the image sizes that work for your normal output. Some videographers are experimenting with photo retouching and image manipulation which will require you to look at developing much larger bitmaps for enhancing reso-

LightWave 3D and other modeling programs allow you to create these larger bitmaps for use as a background for your framegrab. You could design a logo or custom background for a school or team that would allow you to paste individuals portraits into a custom wallet photo for that

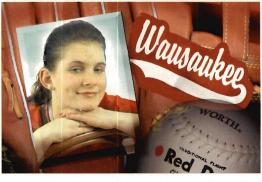
special occasion. It is important to purchase a paint package that will allow you to manipulate the image in real time for pasting and cutting photos onto the large bitmap.

## From the Trenches

As a service bureau, we see images come in from a varied mix of cameras, lighting conditions, framegrabbing devices, multiple generations of tape and camera techniques. Our tips are based on knowing how you can maximize techniques to create the highest resolution grabs. Using your cur-

rent equipment and modifying your techniques to take advantage of the existing resolution of the framegrab will offer you the best quality from your system.

Some videographers are offering a turnkey service by grabbing their frames and supplying finished prints from their scenes. Others find it easier to charge by the hour for the grabs and send the client to our lab for



Once you have a negative, the print packages you create and the profit you generate are entirely up to you.

Our service offers a 4000 line resolution 35 mm slide or a negative with print. We decided years ago that a printed proof was necessary when you order a negative so you could see the results immediately. Dedicated film recorders assure sharpness across the entire image and allows you to project or enlarge prints with clarity. It is important to send your best quality to the service bureau, because these high resolution cameras will not hide the flaws or imperfections of computer generated images.

Once you have developed the ability to improve the framegrab and create salable prints, your next step is to offer those commercial clients the ability to do slides for business presentations. Then you will be well on your way to being the vendor that your client depends on for his creative needs.





negative imaging and prints. You have an opportunity to make money in either case and utilize your equipment in slow periods for extra cash flow. Here's an example you can use: Try to videotape students at an event as still images, then paste them into the background at a later date for a service.

Brian Hartnell has a degree in photography and over 25 years experience as a commercial and portrait photographer. Graphic Impression is a full-service photography studio and computer file to slide/negative imaging service bureau. A 24-hour bulletin board is available for file transfers to speed delivery time to clients. For additional information and samples call (715) 856-5627.

## EDITORIAL EVALUATION

Circle number on Reader Service Card

Very Useful Circle 057 Useful Circle 058 Not Useful

lution.

# Since 1982





## AIGA PRODUCTIVITY

AmigaDOS 3.1 AS312/320/330/340	\$149.99/119.99/139.99/135.99
AmiTCP/IP v4.2	
AsimCDFS v3.5	
CrossDOS v6.0	
CrossMAC	
Cybergraphx	
Directory Opus 5	
IBrowse	
Master ISO v1.23.	135.99
	199.99
PhotoCD Manager	30.99
Squirrel Zip/Jaz Tools	
Termite	
Termite TCP	
Typesmith 2.5	69.99
Mordworth vE 0	120 00



ImageFX 2.6...the premiere Amiga image processing package. Every tool you need to manipulate high quality images is right

\$239.99 ImageFX by Nova Design..

Personal Animation Recorder (Amiga PAR) ... CALL Personal V-Scope (Waveform Monitor) by DPS .... 769-99 Personal V-Scope (Waveform Monitor) by DPS ... TBC IV (Time Base Corrector) by DPS





## AMIGA GRAPHICS SOFTWARE

Broadcast Titler II Super HiRes	\$189.99
Brilliance v2.0	
Caligari 24	129.99
Corporate Video Backgrounds	CALL
Imagine v3.0 NTSC/PAL	199.99/209.99
Main Actor Broadcast	259.99
Personal Paint v6.4	99.99
Universal 3DCD	119.99
Video Gems	79.99
World Construction Set v2.0	399.99



## RAPHICS HARDWARE

Cybervision 2MB Zorro III 24-bit Graphics Card	\$409.99
Cybervision 4MB Zorro III 24-bit Graphics Card	499.99
Digimax 3D Object Digitizer	599.99
Personal Animation Recorder DR2150	CALL



Burn through the toughest rendering tasks and realize massive productivity boosts with speed rivaling many RISC-based computers. Finish your complex rendering tasks in record time - 4 to 6 times fasted Built-in Ethernet port and PCI connector for added upgradability.

\$13999 Wildfire 060 A2000 accelerator by DKB.

CD Salutions 14" multi-frequency monitor. Fully compatible with the Amiga & Video Toaster! Special price with purchase of A4000 Tower!

CD 1401 Monitor 579.99





## UCED PRICES

TV Paint v3.6	
CD1260 Plus PCMCIA CDROM	Controller
3 Button Crystal Trackball	29.00
AdRAM 2080 0/8M RAM Card	29.00
HP Scanlet IIC Driver for ADPro.	54.00
DataFwer 270MB IDE SyOugal A	4000
Clarity 16 Audio Digitizer	149.00
Real 2D v3 3	
Pro Wipes 3.0 Volume 1	
Disk Magis	45.00
Oktagen 2008 SCS12 Centrollet	99.00
	Controller
	68.00
ACTURES ACCORDED A SERVICE STREET	minorani managara da



060 accelerator for the A4000 Tower!

CALL Warp 060 by Macrasystem Development

## Humanoid 2.0 the multi-platform human animation resource. Includes articulated models of a man, woman, child, strongman, walk & run motions

& morphing facial expressions. Humanoid 2.0 Crestine . 16999

Light-ROM 3 3 CD-ROMs tilled with thousands of Lightwave objects. scene files and more. Also supports Imagine, 3D Studio, Sculpt and Real 3D.

Light-ROM Graphic Detail.... 53999





## MultiFaceCard III

Add one marallel port and two social ports to your Amiga 2/3/4000!

MultiFaceCard III Alita Data.

\$89.99



## **A4000 TOWERS**

Stripped or loaded, we have your system. In stock and ready to ship!

New Low Price! CALL



## STER, FLYER & LIGHTWAVE

	2000 00
Alpha Paint	
Control Tower	145.99
Fiber Factory	
Flite Gear	185.99
Filte Path	129.99
Flite Recorder	
Filte VTR	
Hollywood FX	249.99
Impact v1.0	199.99
LightWave 3D 5.0	
Navigator	
Path Finder 2.0	
Proventite cross for LightWave	ලකු ලක
Rodor	
Sparks for LightWave	
Surface Pro for LightWave	
T-Net	279.99
Video Toaster	
Video Toaster Flyer	
WaveMaker 2.0 for LightWave	189.99
Y/C Plus S-VHS Hi8	
YCP-VTT Toaster Calibrator	



## GRAPHICS HARDWARE CONT.

Personal TBC IV VT2693	\$\$799.99
Picasso II 2MB 24-bit Graphics Card	399.99
SuperGen SX	
SuperGen SX Studio	
Victi Arniga 24RT	224.99
Vidi Amiga 24RT Pro	
YCP-GA Y/C Monitor Adapter	89.99



## AMIGA PERIPHERALS

3128 DKB for A3000/4000	\$239.99
	129.99
Amiganet Ethernet Board A2000/3000/4000	
Ariadne Ethernet Board v/ Savoy	
Blizzard A1200:060/50N Hz Arc elerator	76939
Yamaha CDR102 CD-ROM Recorder	
Cobra At 200 030 46MHz Accelerator	
Cyberstorm Mtk II A4000/4650T 060 59MHz Aco	
DataFiver 4000S SCSI-	95.99
HighFiyer Expansion Chassis w/ Power Supp	
Liana Networking Interface w/ Fenvoy	81.99
MegAChip w/2MB Agnus (NTSC)	
Megalosound Audio Digitizer	
Megaldouse	27.99
Rapid Fire SCSI-2: Controller RAM OKB	
Telkidagic A2990 040 33MHz Accelerator	(859:89
TekMagic A210/0/040 40MHz Accelerator	
TekMagic A2100 060 5001Hz Accelerator	
Warp Engine A3000/4000T 060 50MHz Accelers	
Warp Engine A3100/4000 T 040 40MHz Acceler	

SELECT SOLUTIONS INC. POLICIES: WISA, Master Card and Discover accepted. No surcharge on credit and orders. Gedit card is not charged until order ships \$2004300 fee cash only. Prices was subject to change without solice. Call for current pricing. We are not responsible for hypographical errors. 15% restocking the for items returned and not exchanged for same. Customer is responsible for return shipping. Returns accepted for 10 days after involve that, 34H/RPING 0.5 lbs. 35.00.6-20 lbs. add \$1.00 lbs. over 20 lbs. add \$6/cib. over 20 lbs. Rates apply to orders shipped in the continental WS only. Causalian orders add \$5.00. Hor your grotection we check credit cards thoroughly.

FOR INFORMATION CIRCLE 187

## SELECT SOLUTIONS, INC. P.O. Box 6512 (hampaign, Illinois 61826-6512)



## EXPLOSION OF NEW PRODUCTS! Dozens of new products are shipping an a regular basis.

Call on soles representatives any time for the latest.



## SAME DAY SHIPPING! Orders an in-stack items placed before 6PM CT (Manday-Friday) are processed and shipped out that same day.

INTERNATIONAL ORDERS WELCOME! We speak many languages...Spanish, German, Dutch, Bahasa Indanesian, and others.







24 Haur Order Fax: 217-356-4312 Internet Orders: solutions@dvideo.com International Sales: 217-355-2785



FREE! Micro 2000 Custom T-shirt with orders over \$800.00!



FREE!

HEWLETT

COMPAQ

Microsoft' SOLUTION PROVIDER

Shipping on orders above

## SE HABLA ESPANO



EXT. 101 BUSINESS HOU MON-FRI 9-5 VOICE MAIL

& FAX 24HRY

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 service

HARDY	
CD Solutions 14" Monitor	559
Iomega 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
Digirnax 3D Scanner	619
Amtrak Tracball	61
Crystal Tracball	38
Hydra Ethernet Card	279
Ariadne 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 Modern	129
28.8 External Modern	169
Sync Strainer	55



## ISIM CDFS Amiga CD-ROM File System \$64.95

CD-Writer to create your own CD's Photo CD Manager CALL exture Heaven 1 exture Heaven 2



Amiga Version	\$1649
IBM Version	\$1649
Personal TBC IV	\$795
Personal TBC III	\$689
1 Gig A/V Drive	\$245
Perception Video	System

Capture AD-2500 \$875 RC-2000 Remote 269

Perception Bundle 2489 eagate Video Drives in Stock!

"Specializing in Newtek Desktop Video Solutions"





## HOW TO BUILD THE PERFECT TOASTER

1	VIDEO TOASTER 4000 v4.0	\$1,995!
2	AMIGA A-4000 T 040-25	\$2,599!
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		\$219
11	SCSI 4X CD-ROM	\$109
10	SHOP AT MICPO 2000!	

# AMIGA A 4000 T

grafx/914





JUST RELEASED ALPHA VERSION \$1,139,95

Lock & Key	165
Impact Amiga	199
Impact Intel	329
Macroform	Call
Humanold	164
World Construction Set Amiga	369
Interior Design Collection	145
Universal 3D CDROM	114
World Contruct. 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
Coarles Amiles Aletel	118/170

Rapid Fire SCSI II Cont Cobra 28Mhz A1200 Cobra 40Mhz A1200 Mongoose 50Mhz A1200 erret SCSI Controller 1202 Memory Board

Megachip 2000

Expand your chip ram to 2 Megs on a A2000 or A500 Wildfire 060 Fast SCSI II/Ram Multistart II Boot Selector

Dataflyer SCSI + A4000 Dataflyer 4000sx SCSI Dataflyer 4000sx-25 High Flyer w/ Power Supply Fan Kit Cabling Kit

SPECIALS: **EPSON 24 BIT COLOR SCANNER** 16 MILLION COLOR - FLATBED \$299,95111

DEC ALPHA COMPUTER 166MHZ 24MB RAM 340HD KBOARD MOUSE SVGA 1600X1200! 1929.95

**Enlan DFS** Alpha Paint **Broadcast Titler II** Ami TCP/IP Filte Gear 4000 Control Tower WordsWorth Scene Machine Win WaveMaker **TVPaint** Dpaint5 Brilliance

PowerMacros LW

VistaPro 3.0 Amiga / Intel

Canon BJC-210 Color Canon BJC-4100 Color Canon BJC 610 Epson Stylus IIs Epson Stylus II Epson Stylus Pro Epson Stylus Pro XL Fargo Foto Fun Fargo Primera Pro HP Deskjet 680 HP Deskjet 820 Studio II Printer Driver Kit **Epson Stylus Printer Driver** T-shirt Transfer Paper for Canon

All Supplies and Refills

Its 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 pt software and media. Shipping & handling is additional and is not refundable (Free shipping above \$2000.00 Ltd time offer. There is liable. Corporate and Government PC's welcome. If ol. Visit our Web Site at WWW.MICF

Photo CD Manager

Multiface 3

## .... MORE STUFF

## SPECIAL SYSTEM CONFIGURATIO Toaster System #2

Toaster System #1 A-4000-040-25 1GB 14inch monitor Video Toaster 4000 Video Toaster 4000 keyboard, mouse 18MB Ram

A-4000-040-25 1GB 14inch monitor Cyberstorm 060-50 MHZ 34 MB Ram keyboard, mouse

A-4000-040-Cyberstorm 50 MHZ 4000 2 GB HD,

\$ 38.00 \$239.00 Image FX 2.6 Complete Post Produdion w/Toaster \$ 18.38 FX Kit for Lightwave book Power FX Addendum 5.0 \$ 21.95 Rocgen Plus Pyramid MIDI Interface \$195.00 \$ 38.99 **Termite** Megalosound Directory Opus Surf Squirrel Scala MM300 \$135.00 \$169.00 Scala MM400 Typesmith 2.5 Pagestream 3.0H2 Word Worth Surface Pro for Lightwave Termite TCP/IP Ibrowse Quarterback 6.1 Quarterback Tools Quarterback/Tools bundle Co-Pilot Video Video Action NT w/effects Adobe Premier 4.2 Wavenet Pro \$259.00 \$349.00 Mesh Paint (intel) Yamaha 4x read/2x write CD ROM recorder \$669.00

\$6,445

## STEM SPECIALS

Flyer #1 Mid Tower Chassis Custom SCSI Cablina Octopus Cable 2 x 2 GB Video Drive 1x 1 GB Audio Drive 4x SCSI CD ROM Video Flyer Card

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



Video Flyer Card Super Tower (10 bay 300WT Octo 2 x 9 G 4x SCSI CD R

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

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 SCSLCD ROM

er Card /Ideo Drive eo Drive

ablina Octopus Cable

Free Installation On All Flyer Systems

**FOR INFORMATION CIRCLE 193** 

## GHT DELIVERY ONLY \$9.95 TO THE 4

**FOR INFORMATION CIRCLE 121** 

CALL FOR LOWEST PRICING! To place your order call 1-800 - 699 - 4049

## **MONITORS**

AMIGA 1080/4/4S RGB Analog Monitor AMIGA 1950/60 Multisync Monitor 399 CD Solutions 1401 14" Multiscan RGB Monitor 599 (AWESOME TOASTER or FLYER MONITOR!)

## VIDEO HARDWARE

AIDEO HARD WAILE	
Cybervision 64 Zorro III w/2 & 4MB Ram	399/479
MacroSystem Vlab Motion Card	1499
MacroSystem Vlab Motion System (Toccata	
MacroSystem Vlab Motion Complete (T&R2	23) 2549
MacroSystem Retina Z3 w/4MB	715
MacroSystem Retina Z2 w/4MB	519
MacroSystem Toccata Sound Card	379
MacroSystem Vlab Y/C Internal / External	389
Newtek Video Toaster 4.1+	1995
Newtek Video Flyer 4.1+	3895
Nucleus Personal editor v1.1	589
Nucleus Personal SFC Plus v3.1	359
Prevue Technology - Sync Strainer	49
Prime Image "Little Black Box"	695
Rockgen Plus Genlock	199
VIDI 24 RT / VIDI 24 RT PRO	259/369
YC Plus - Y/CPlus SVHS Hi8	899
CALL IE VOLLDO NOT SEE IT HERE	

MANY MORE ITEMS IN STOCK!	
SOFTWARE	
Address It v1.5	26
Ami-File Safe Consumer	39
Ami-File Safe Professional	99
Caligari - Caligari 24	119
Cine Graphics - Powermacros for Lightwave	99
Crestline - Humanoid for Imagine	169
Crestline - Humanoid for Lightwave	169
Dimension Technologies - Composite Studio Pa	0169
Dimension Technologies - Fly Effects	169
Dynanic Reality - Impact!	199
Electronic Arts - Deluxe Paint V	119
Focus - GraphicRECALL v1.5	51
Hester - Plug Ins & Go	69
Impulse - Imagine 3.0	159
Innovision Technology-Alpha Paint	349
Innovision Technology-Broad. Titler II S.HiRes	189
Magic Lantern v2.0	74
Metrografix - Motion Master Volume 1	99
Metrografix - Motion Master Volume 2	99
Metrografix - Sparks v2.173	119
Newtek Lightwave 4.0 (IBM or Amiga)	695
Newtek Lightwave 5.0 Upgrade	409
Newtek Lightwave 5.0 Complete	1029 475
Newtek Video Toaster 4.1 Upgrade	215
Nova Design - Image FX v2.6+	
Photogenics	84 119
Play - Brilliance 2.0	9/389
	165
Radiosity - Wavemaker v2.0 Realsoft - Real 3D v3.3	359
Scala Multimedia MM300	129
Sports Object for Lightwave	49
Syndesis - 3DROM Vol 1 or 2	84
Synergy - Hollywood FX or Lite	219
Swipes	89
Visual Inspirations - Visual FX for Lightwave	99
Virtual Reality Studio v2.0	69
Pixel 3D Professional v2.0	89
Pagestream 3.0+	169
CBM AMIGA EMULATORS	201
111 The Control of th	9/299
AZUUU ATIAT Bilagecald (2000)	01233

A2088 XT/AT Bridgecard (2000)	99/299
GVP PC286 (GVPA500+ & A530Turbo)	99
Emplant Deluxe Version	339
E586 Upgrade IBM Module	119
Emplant Macroms	199
A-Max II+ w/A-Max IV Color	329
CBM AMIGA SYSTEMS & PROD	UCTS

Computer w/1000MB HD / 6MB Ram	259
	200
mputer without HD	49
mputer System w/ECS	59
mputer System w/o ECS	19
mputer System w/o HD	29
leo Adapter (works w/ all systems)	1
	8
	7
	3
internal high density disk drive	
	11
00 5/6/1200 Power Supply	
	19
	9
040 @ 25mhz for the 4000/3000	34
MB or 4MB (A2000 Accelerator)	319/39
MB or 4MB (A2000 Accelerator)	199/24
2K ramboard w/clock	24.9
b ramboard w/clock	69.9
un For 2091 (256x4 dips) thernal low density disk drives nal low density disk drives nal low density disk drives linternal high density disk drive external high density disk drive 00 5/6/1200 Keyboards 00 5/6/1200 Power Supply ment Mouse ker Fixer (2000/4000) ren port serial card Controller card w/0MB 040 @ 25mbz for the 4000/3000 PMB or 4MB (A2000 Accelerator) PMB or 4MB (A2000 Accelerator) PMB or 4MB (A2000 Accelerator)	CAI 11 CAI CAI 24.5 29 31 319/39 199/24

## CPU & FPU UPGRADES & REPLACEMENTS

The open wider the control of the co	ACCUMINATION OF THE PARTY OF TH
68040-40 w/MMU&FPU	199.00
68040-33 w/MMU&FPU	149.00
68040-25 w/MMU&FPU	99.00
68040-EC25	75.00
68030-RC-50 w/MMU	119.00
68030-RC-40 w/MMU	79.00
68030-EC40 (NO MMU)	99.00
68030-RC-33 w/MMU	99.00
68030-RC-25 w/MMU	75.00
68030-EC-25 (NO MMU)	50.00
68882-RC-PGA-50 FPU	75.00
68882-RC-PGA or PLCC-40 FPU	59.00
68882-RC-PGA or PLCC-33 FPU	49.00
68882-RC-PGA or PLCC-25 FPU	35.00
68881-RC-PGA or PLCC-25 FPU	25.00
80387-25SX (386BB) FPU	69.95
Crystal Oscillators 68040 Heat Sink	10.00
Intel Pentium Pro 200	25.00
Intel Pentium 166	
Intel Pentium 133	425.00 225.00
Intel Pentium 100	165.00
milet i entium 100	105.00

## **MEMORY CHIPS**

LIFETIME WARRANTY ON ALL MEMORY (RAM) CHIPS
RAM CHANGES FOR BETTER WORSI PLEASE CALL FIRST!

1 x 8	120 - 60ns SIMMS	19+
1 x 9	120 - 60ns SIMMS	25+
4 x 8	120 - 60ns SIMMS	45+
4 x 9	120 - 60ns SIMMS	55+
1 x 4	120 - 60ns Static ZIP	9+
	120 - 60ns Page ZIP	9+
	120 - 60ns Page DIP	9+
	120 - 60ns DIP	3+
256 x 4	120 - 60ns DIP	3+
256 x 4	120 - 60ns ZIP	3+
256 x 32	100 - 60ns (1MB Simm)	9+
256 x 36	100 - 60ns (1MB Simm)	15+
512 x 32	100 - 60ns (2MB Simm)	15+
512 x 36	100 - 60ns (2MB Simm)	19+
	100 - 60ns Simm (4MB)	20+
1 x 36	100 - 60ns Simm (4MB)	22+
2 x 32	100 - 60ns Simm (8MB)	40+
2 x 36	100 - 60ns Simm (8MB)	44+
	100 - 60ns Simm (16MB)	80+
4 x 36	100 - 60ns Simm (16MB)	88+
	100 - 60ns Simm (32MB)	160+
8 x 36	100 - 60ns Simm (32MB)	172+
	100 - 60ns Simm (64MB)	999+
GVP SIM	IM32 60NS 4MB	79
<b>GVP SIN</b>	IM32 60NS 16MB	399
GVP SIM	IM32 60NS 1MB	29
AMILO	A CHETOM CHIDE & HDCDA	DEC
AIVIIG	A CUSTOM CHIPS & UPGRA	DEO

AMIGA CUSTOM CHIPS & UPGRA	DES
3.1 Upgrade kit (roms, soft, mans)	119.00
3.1 Upgrade kit (roms, software)	79.00
3.1 Kickstart roms (500/2000/600)	59.00
3.1 Kickstart roms (3000/4000/1200	
2.1 OS Upgrade Kit (complete)	79.95
2.1 OS Upgrade Kit (soft,manuals)	49.95
2.05 Kickstart Rom (A600)	24.95
2.04 Kickstart Rom	24.95
1.3 Kickstart Rom	12.95
1MB Agnus (8372A)	23.95
2MB Agnus (8372B)	39.95
Super Denise (8373)	29.95
Paula (8364) Or Denise (8362)	16.95
CIA (8520)	9.95
Western Digital Revision 08A	29.00
Superbuster (rev11) (4091)	45.95
Ramsey (rev 07)	39.95
Fat Gary (A3000)	29.95
Super Dmac (rev 04)	39.95
Amber (A3000 & 2320)	44.95
Janus 2.1 upgrade kit	24.95
2620/2630 upgrade kit (7.0)	24.95
2091 upgrade kit (7.0)	24.95

### Amiga Analyzer \$59.95 Diagnostic softwa for problems

TO THE PERSON OF THE PERSON OF	
PERCEPTION PVR-2500 CAPTURE CARD AD-2500	1575
CAPTURE CARD AD-2500	875
RS422 Option	185
PAR (IBM) DR-2100	1545
PAR (Amiga) DR-2150	1695
w/Conner 540MB	+199
w/Quantum 1275A 1.2G	+299
w/Quantum Sirraco 2.5G	+399
Personal TBC IV	799

Personal Vector Scope

## Aacro Sustems

- SCSI II Fast & SCSI I hard drive controller available for the Amiga 4000/3000 - SCSI II Fast & SCSI I hard drive controller available for the Amiga 4000/3000 - Up to TEN megabytes per second with a Seagate Barracuda 2.1 gigabyte hard drive - Expandable to 128MB RAM using 72 pin industry standard simms (3040 only 64MB) - Amiga 4000D & 3000T (4040) or 4000T & 3000D (3040) (Specify Unit When Ordering)

68040 @ 40Mhz w/CPU & FANSINK 695.00

Low profile, power & heat simms for maximum performance -

Upgrade rebates for A4000-040 owners with original CPU card , simms & A3000 owners with zip style dram!

## WARP ENGINE UPGRADE KIT

### **40MHZ UPGRADE KIT** 199.00

Includes Motorola 68040 @ 40MHZ, Nidec whisper quiet, low power, low voltage fan sink and 40mhz 1/2 can oscillator.

## 33MHZ UPGRADE KIT 149.00

Includes Motorola 68040 @ 33MHZ, Nidec whisper quiet, low power, low voltage fan sink and 33mhz 1/2 can oscillator.

## REMOVABLES (Amiga/MAC/IBM)

SYQUEST 5.25" 44MB DRIVE (SQ555)	9
SYQUEST 5.25" 88MB (SQ5110C) (R&W44)	25
SYQUEST 3.5° LP EZ-135MB IDE or SCSI w/Car	1 19
SYQUEST 5.25" 200MB (5200) (R&W 44&88)I	29
SYQUEST 3.5" LP 270MB (3270S) 13MS SCSI	32
5.25" 44MB / 88MB Cartridges	39/4
3.5" 270MB or 5.25 200MB Cartridges	54/6
External Versions w/Cabling Add	5
I/O MEGA ZIP DRIVE EXTERNAL	19
I/O MEGA JAZZ DRIVE INTERNAL	39
JAZZ Cartridges	12
ZIP Cartridges	1
AGOLOR DOLL DOLLER A DOLLER	200

## SCSI CD-ROM DRIVES & DRIVERS

Sony CDU 55 - (Internal or External) 7 caddyless, double speed (2X) multisession, photo-CD, 1 Year Warranty

## (Internal / External)

caddyless, QUAD SPEED (4X) multisession photo-CD, 1 Year Warranty

Toshiba 4.4x	199/259
Teac 6x	199/259
Plextor 6x	249/309
Plextor 8x	299/369
ASIM CDFS 3.6+ w/Fish CD (AMIGA)	59
CDROM file system for Amiga System	ns,
includes Fred Fish CD.	

Squirrel SCSI II PCMCIA (A1200/600) 94.00

Surf Squirrel SCSI II & High Speed Serial PCMCIA for A1200 & A600

## Micropolis 1936 SCSI I & II 12 MS - 3000 MB - 5.25" FH

4 MB/Sec Async 10 MB/Sec Sync 5 Year 699.00

## PHASE \*5\*

Blizzard 1260 Turbo Board	875.00
Blizzard 1260 or 1230 SCSI II/RAM	175.00
Blizzard 1230-4-50mhz	295.00
Cybergraphix Software	59.00
Cybervision 64 Z3 w/2MB	399.00
Cybervision 64 Z3 w/4MB	449.00
Cyberstorm 68060 @ 50MHZ MK II	899.00
Cyberstorm 68060 MK II SCSI II	149.00
Cyberstorm 68060 A2000	899.00

## 3.5" HARD DRIVES

## Ouantum

IBM 540MB	SCSII&II		10MS	2 Yrs	199
850 LPS SC		DE	11MS		
IBM 2.1GB	SCSII & II		8.5MS	3 Yrs	399
*2.1G Atlas	7200RPM	1MB	8MS	5 Yrs	649
** 2.5 GB SI	RRACO IDE		10MS	5 Yrs	349

4.3G Atlas 7200RPM 2MB 8MS 5 Yrs 89 4.3G Grand Prix 512k buffer 8MS 5 Yrs 849

## Seagate

ST	3290A	260	MB	IDE	LP	16MS	3 Yrs	13
ST	3491A	420	MB	IDE	LP	16MS	3 Yrs	14
**	51080A	1080	MB	IDE	LP	10MS	3 Yrs	22
**	51270A	1270	MB	IDE	LP	10MS	3 Yrs	24
**	52140A	2140	MB	IDE	LP	10MS	3 Yrs	34
ST	31231N	1050	MB.	SCS	I LP	9MS	5 Yrs	37
*S	T32550N	12.10	Ba	rraci	ıda	8MS	5 Yrs	99
*S	T15150N	1 4G	Ba	rraci	ıda	8MS	5 Yrs	119
*S	T410800	N 9G	Eli	te		11MS	5 Yrs	219
* V	IDEO FL	YER	CE	RTIF	IFD	HARD	DRIVE	-s

\*\* A4000 AUTOBOOTABLE HARD DRIVES

## Conner

CFA 1275A	IDE (w/PAR)	12MS	3 Yrs	399
CFA 850A		12MS	3 Yrs	26
CFP 540A	IDE	12MS	3 Yrs	199
CFA 540A	IDE (w/PAR)		3 Yrs	199

## A1200/600/SX1 2.5" IDE HARD DRIVES

ST9816AG 810MB Seagate 349

Seagate 4324NP

139.00

IBN	M
540MB 760MB	149
760MB	199

Install kits available \$25.00

399

299

299

cagaic Tortin	ZITUD	00210300	049.00
eagate 4326NP		400k/sec	799.00
xabyte 8700LT	7/14GB	1024k/sec	1099.00
uantum 2000	10/20GB	2500k/sec	3384.00
uantum 4000	20/40GB	3000k/sec	4995.00
ony 4MM 120M		pe (8GB)	20.00
xabyte 8MM 16			15.00
uantum 2000 Ta			50.00
uantum 4000 T	ape (40GE	3)	120.00
	AND THE PARTY OF T	and Alberta and All World and	

TAPE BACKUP DRIVES

## CD-ROM RECORDER DRIVES

Now you can record your own CDROM discs or make backups of the ones you already own.

## REQUIRES SCSI INTERFACE CARD

Mastering ISO Recordii Yamaha CDR102	ng Software 4x read 2x write	129 495
Yamaha CDR100	4x read 4x write	795
Hewlett Packard 4020i	4x read 2x write	695
CDR Recordable 74 Mi		9.95

## **AMIGA NETWORKING**

Interworks ENLAN-DFS (5 node licence) 290 CBM A2065 Ethernet board Hydranet (2000/3000/4000 Series) I-Net (A1200 PCMCIA interface) Ariadine

## TO PLACE AN ORDER CALL (800) 699 - 4049

795

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

## Please understand our policies

DISCOVER / VISA / MASTER Card / American Express & COD Accepted. All Prices and specifications are subject to change without notice! ALL SALES ARE FINAL - NO REFUNDS OR EXCHANGES WITHOUT APPROVED RMA#. 15% restocking fee on all refunds. Defective items replaced with same item only. Call 302.738.9267 for approval RMA# before returning merchandise, or fax an RMA# request to 302.738.9259 otherwise your return will not be accepted. We are not responsible for incompatibility of products. CODs are CASH ONLY Shipping & handling is non-refundable. S&H for chips is \$5 COD Fee \$6 Personal checks reguing 14 days to clear. Call for actual chipping are on all extractions. checks require 14 days to clear. Call for actual shipping prices on all other items.



- 9.1

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 FIVE MILLION DOLLARS
OF INVENTORY AVAILABLE
FOR DELIVERY TO YOU

2395

995

1795

800 699 4049

# FLYER & TOASTER SYSTEMS

2 video slots, 5 zorro III slots, floppy disk drive, mouse, keyboard, 18MB Memory, (3640 w/CPU additional \$200) 1000MB HD & Bundled Software Pack of assorted software!

Processor Options - A3640 68040 @ 25mhz cpu w/MMU & FPU 200 Macrosystems Warp Engine 4040 w/CPU, SCSI I&II Controller 695

Amiga 4000T Motherboard, tower case, 250 watt power supply,

Memory Options - (Minimum of 8MB Fast Memory needed)

A4650 68060 @ 50mhz cpu w/MMU & FPU (EDO Support)

1x32 Simms 60ns 4MB
2x32 Simms 60ns 8MB
4x32 Simms 60ns 16MB (accelerator or extra ramboard)

25
100

8x32 Simms 60ns 32MB (accelerator or extra ramboard) 200

Newtek Video Toaster 4000 (NEWEST VERSION)

Newtek Video Flyer (NEWEST VERSION)

- 2.1 Video Tested / Formatted & Configured Drive (5 Yr)

- 4.3 Video Tested / Formatted & Configured Drive (5 Yr)

995

# CALL FOR PRICE BEATING

Video Tested / Formatted & Configured Drive (5 Yr)



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

## Megachip 2000/500

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)

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 pice math co processor can speed upmath 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 onboard of 112mb of ram using industry stanard 72pin simms. Has four four sockets allowing use of 4, 8, 16, or 32 mb simms. Allows full burst mode support.

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!

99.00

# OVERNIGHT ONLY 9.9.

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

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 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

140 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

# XPANSI

HIGHFLYER (A4000 Only) INCLUDES Power Supply Fen Kit

Cable Kit

**Dataflyer SCSI card 4000SX** 

- SCSI Controller card supports up to seven devices internally, can add external port later Dataflyer SCSI card 4000SX-25 -SCSI controller card with DB25 external

connector for external devices Datafiver SCSI+ A4000

-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** 

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

Dataflyer 1200/600 XDS

- 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. 89.00

Dataflver RAMBOARD w/0MB

- ramboard expandable to eight megabytes of ram using 1x8 or 1x9 simm moduals

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

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** 

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

Dataflyer IDE A500

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 External enclosure, allows internal mounting of 3.5" SCSI or IDE device. Ramboard can be added to expand memory to eight megs. DB25 external connector

purchased separately for 9.95. Up to nine devices can be

controlled mixing & matching SCSI & IDE..

**Baseboard A601C** 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 year manufacture warranty.

case with power supply stion tan power option, as kit option, deer cabling 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

E

## CSA DERRINGER+

## 800% INCREASE IN SPEED!

84.00

99.00

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) Upt to 32MEGABYES 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 seperately) 4MB - 275 8MB - 299 16MB - 349 32MB - 449

FREE MATH CO PROCESSOR with purchase of 33mhz version

2000/500 ACCELERATOR

68030 RC33 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

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

## Maanum

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 64MB ram using 72 pin industry standard simms

## 68040 @ 40Mhz w/CPU & MMU &

Low profile, power & heat simms for maximum performance -

Upgrade rebates for A2000 owners with otherI 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
33 MHZ & 40MHZ AVAILABLE! \$649.00 & 749.00II

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

## ICD PERIPHERALS

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

**FOR INFORMATION CIRCLE 121** 

## SUPERGEN SX

External genlock for Amiga series computers 699.00

## SUPERGEN SX STUDIO

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

89

179

369

35

## VILLAGETRONIC

MainActor Professional MainActor Broadcast 269 Full featured animation program that works with all Amigas with support for

Picasso II owners. Ariadne

- Zorro II Ethernet card offering 10base-2 (cheapemet) & 10base-T (twisted pair) Features; 2 parallel ports 32k buffer; boot eprom option; SANA-2 Compatible drivers & Envoy network software; DOS 2.04 or higher required.

### Liana Network

Connects any two Amigas togeather via the parallel port

- 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

## PICCASO II+ w/ 2 MB RAM

High resolution graphics board

PICCASO II+ -> 1084/1080 Monitor Cable

Allows connection of CBM 1084, 1080 or 2002 monitor to Piccaso 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	649
GP FAX CLASS 1 & 2	54
Gigamem v3.12	59
WIZ MOUSE 560 dpi	39

## CONSULTRON

Cross Mac 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.

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)

Fermite TCP / IBROWSE BUNDLE GP FAX Class 1 & 2 (Amiga)

REMOVABLE MEDIA SCSI DEVICE CLOSE OUT

Richo 50 MB removable HD \$99.00



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 810MB HD INSTALLED 375.00

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

199.00

299.00

## 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
- 33 MHZ & 40MHZ AVAILABLEI \$649.00 & 749.00II
- Extra SCSI Port Option Available
- Built in SCSI I & II HD Controller Card

limited time price of \$499.00

## VP-M TREX-2 68060 @ 50MHZ

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

Awesome Pricing Of \$995

## GVP-MI/O EXTENDER

TWO SERIAL PORTS ONE PARALLEL PORT

Reintroduced @ \$119

## **ICD PERIPHERALS**

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

## **AMIGA RAM BOARDS**

Paravision MBX1200Z w/20Mhz&1MB Paravision MBX1200Z w/20Mhz&2MB Paravision MBX1200Z w/20Mhz&4MB Paravision MBX1200Z w/20Mhz&8MB 199 299 (2000) (2000) (2000) (2000) (2000) Paravision 8-Up! w/0MB Paravision 8-Up! w/2MB Paravision 8-Up! w/4MB 149 229 Paravision 8-Up! w/6MB Paravision 8-Up! w/8MB DKB 2632 w/4MB (F DKB 1202 FPU & 8MB Ram 389 (Requires 2630) (1200) 159 DKB 3128 w/4MB 199 Exp. Sys. Dataflyer Int. w/2MB Exp to 8MB Supra External w/2MB (500) (500) CBM 2052 w/2MB CBM 2058 w/2MB Exp to 8MB CBM 501c Clone w/512K (2000) 99 175 Exp. Systems 601c w/1MB (600)

## Legendary Design Technologies Inc

49.00
50.00
32.00
19.00
29.00
41.00
26.00
39.00

## IBM HARDWARE

## MiroVIDEO DC 20

\$745

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

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

859

915

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** 

2599 3995

## 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 Senal / 1 Par. / 4 IDE HD Support Master Support for PCI slots

Desktop case or Minitower Case w/200W PS, Keyboard, mouse, 3.5" FDD, 2.5 GB HD, P168 84 MB EDO RAM, 4x CDROM DRIVE

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

## **UIDEO TOASTER USER**

YOUR GUIDE TO VIDEO FX/LIGHTWAVE 30/TV GRAPHICS

## **SALES OFFICES**

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

Michael D. Kornet
Publishing Director
Miller Freeman, Inc.
411 Borel Ave., Ste. 300
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: 212-929-2110
Fax: 212-829-8760

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

Fax: 212-929-8760

Dina Berrigan
Marketplace / Dealer / Classified
The Eric Charles Group
34 W. 17th Street
New York, NY 10011
Phone: 610-954-0553

Fax: 610-954-0553

## **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	-	Lively Computer
_	Amigo Business Computer79	_	Markertek Video Supply81
163	Anti Gravity	193	Micro 2000
-	Archer Productions80	_	MicroSearch78
129	B & H Photo-Video	-	MicroTech Solutions80
107	Carrera Computers Cover III	_	The Music Bakery81
-	Chameleon Music	138	NewTek Inc
-	Darke International81	138	NewTek Inc. LightWave 3DCover IV
188	Desktop Images5	144	Nova Design2
121	Devine Computer Sales	199	Questar Productions42
108	Dimension Technologies Cover II, 1	198	Safe Harbor Computers
_	Edit Bay Music80	187	Select Solutions
_	Electronic Connection81	_	T.S. Computer80
-	Graphic Impressions81	128	Tri-State
-	Hammond Photographic81	_	Video Toaster User Subscription 35
_	Lightstorm	196	Video Toaster User Expo43-45

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!

# UIDEO TOASTER USER

## OFFER VALID THROUGH DECEMBER 31, 1996 ADDRESS. STATE 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 702 Mass Storage 703 Computer Systems/ Accelerations 706 🗆 Video Camera: 707 Stock Footage/ Music Libraries 708 U 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 y other readers see part or all of this issue? 06 1 Three 07 1 Four 08 1 Seven or more 05 🗆 One 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	196	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	
	200		1											_

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.

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 fisted in the advertising index and editorial features

# UIDEN TOASTER USER

OFFER VALID THROUGH DECEMBER 31, 1996

NAME AODRESS STATE

COUNTRY\_

A. Which of the following products do you plan to purcha

in the next 12 months?

705 Audio Sound

702 Mass Storage

706 Video Cameras

703 Computer Systems/

Accelerations

707 Stock Footage/

704 Monitors

Music Libraries.

B. Which trade show do you plan to attend?

708 Video Accessories/Supplies

01 1 NAB 96

03 Video Tienster Uner Expo '96 02 D ACM SIGGRAPH '96 04 D COMDEX Full '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:

Canada/Mexico; \$76 Overseas. Canada/Mexico/Overseas orders

1:03 

Send me the next 12 issues of VIDEO TOASTER USER and bill me \$36 U.S.; \$48 must be paid in U.S. funds only.

# 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



PO BOX 5039 PITTSFIELD MA 01203-9107

MarrallahMarrilahkan Mhaladadhall

Manadaddaadddaadddaadddaadaddaaddaadd

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES



## **BUSINESS REPLY MAIL**

INSTITUTADO MINIE PENIMIT NO 420 PITTOFIELD I

POSTAGE WILL BE PAID BY ADDRESSEE

UIDEO 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):

212-444-5001

**OVERNIGHT AND RUSH** 



# announces...

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

Qu	ıickDial		QuickDial
Industrial/Broadcast Equipment	72	3D Animation	732
Pro Video Equipment & Accessories	74	Pro Audio Equipment	8
Non-Linear Editing & Computer-based Vide	0 731	Used Video Equipment	75



## **Panasonic Broadcast & Television Systems**



## AG-456

## 2-Hour S-VHS Camcorder

- Now includes manual zoom control
- Laminated amorphous heads assure exceptional picture quality, high resolution
- Superbooking 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

- for frame accurate editing (with specific edit systems)



## AG-EZ1 3-CCD Digital Camcorder

In addition to it's state-of-art DVC recording system, the AG-EZI also features a three-CCD image sensor, 180,000 pixel color viswinder, 10:1 power and 20:1 digital zoom, full auto and manual controls and a large LCD panel.

- Three CCDs with 270,000 pixels each are horizontally staggered for optimum resolution.

  Digital recording system delivers incredible 500 lines: of hori-
- zontal resolution and virtually no noise. Signal -to-noise is 54dB, an improvement of 6-9 dB over conventional analog systems. This represents a S/N ratio 2-3 times better than existing camcorders.
- Audio is also recorded digitally for quality that rivals CDs.You can choose between two-channel 16-bit recording or two sets of 12-bit stereo, with the second set for uses such as narration. Magnified 180,000 pixel color viewhinder titls 120° vertically for shooting from high or low angles, and its professional siz means you don't have to press it against your eye to see the
- Variable high speed shutter goes from 1/60-1/8000 of a sec-
- Digital Electronic Image Stabilizer (DEIS) compensates for jittery video and is very effective when the digital zoom is employed.
   Equipped with 10-1 power and 20:1 digital zoom lens. Both zooms are adjustable in four speeds (3.5 seconds—15 seconds) based on how hard or soft the zoom toggle is pressed. To set up a shot quick-by, a Turbo Zoom function moves from light to wide angle, or vice versa, in under two seconds. For extreme close-ups the lens can focus up to 1.4 fixer from the explicit. focus up to 1/4 inch from the subject.
- Digital Photo-Shot let's you record a still-frame for about six sec-onds, while audio continues as normal. This feature is great for creating video photo albums as 290 still pictures can be recorded on a single 30-minute tape and 580 shots on a 60-minute tape. Using the TopScan feature any shot can be found easily.
- · Large LCD panel on the side of the camera displays camcorder

## AG-DP800H

## **UPERCAM**

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



- . Three high-density 380,000 pixel CCDs with half-pitch pixel offset antieves over 750 lines of horizontal resolution, a 57n ratio of 60dB and remarkable sensitivity of f8 at 2000 lux. Additionally the Frame intertine 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
- 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 settlings including Horizontal Detail, Vortical Detail,
   Chroma and Dark Detail, and Color Correction. The four preset modes are normal, fluorescent, special and spankling.
   In addition to regular ACC (Automatic Gain Control), Supercam has a Super High Gain mode. At F1.4 this enables strooting under illumination as two as 2 two white retaining detail and color balance.
   Sunction Scan function allows flicker-free shooting of computer monitors. Electronic shuffer increments can be set variably from

- 1/61 seconds to 1/253 of a second
- For sections to the score a section.

  Subth-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-pib connector on the back that outputs a composite or component video signal. This enables convenient backup
- tecordings using an additional VCR equipped with a 26 or 14-pin connector. Phartom power can be supplied to an optional microphone. Power can be switched off to govern, hattery drain when out in use

800-947-9003

SERVICE AVAILABLE

E-Mail at 76623.570@compuserve.com

Dr

# **GR-DV1 CyberCam** Digital Video Camera

Weighing in at 1.1 LB 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 at much higher quality than any conventional camcorder and you have one of the most versatile recording tools ever developed. Applications include personal video recording, surveillance, record-ing important meetings and multimedia presentations.

DIGITAL VIDED
The GR-DV1 combines a 570,000 pixel image sensor with the new DV formatis 4.1-1 digital component recording system to deliver a razor sharp picture with 500 lines of resolution. Also provides enhanced definition and color accuracy even with the subtlest colors. Also features a Digital image Stabilizer to eliminate camera shake without affecting resolution.

DIGITAL AUDIO

Previously available only in high end cameras costing tens of thousands of dollars, CD quality audio recording on video tape 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.

COLOR VIEWFINDER

Line-of-sight design of the color viewfinder, which slides back to engage standby mode along with the vertical orientation of the camcorder ensures point and shoot simplicity.

DIGITAL SPECIAL EFFECTS

A multitude of special effects are possible with the GR-DV1 includ-ing wipes, fades, and dissolves. In addition, some specialized effects such as Classic Film. Monotone, Sepia, Strobe, and Video Echo can be recorded in the cameorder 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 The image is recorded for seconds before the next image gradually overlaps the snapshot and normal recording resumes. A Snapshot Search feature lets you out together a video album using captured photos
- you put together a video album using captured photos OuluckPix 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 inaminate objects are recorded with slight changes in position between shots, an animation effect is rendered to the objects making them come alive

10X variable speed optical zoom with built-in macro capability delivers razor sharp images from a distance or as close as 1.5 cm from the subject. Also offers 20X digital zoom and amazing 109X Super Digital zoom allowing image capture from a fremendous distance while retaining a good degree of sharpness

USER FRIENDLY MENU SYSTEM

control is used to make the different selections as they appear in the color viewfinder allowing you to call up set-tings from the menu without taking your eye away off the viewfinder. This design allows the GR-DV1 to have a minimum of controls and switches.

DOCKING STATION

- Multi-function docking station offers even more sophisticated playback capabilities. Plus advanced editing functions like Random Assemble, video insert and audio dubbing.
- Has composite video and audio jacks plus an S-Video jack (not built in to the camcorders
- boild in to the cancerder).

  Accessed through a multibrand wireless remote control R.A. (random assemble) editing enables programmed rearrangement of up to 8 scenes at a time, just by marking the beginning and end
- Up to 17 scene transitions can be specified in addition to the 5
- op to 17 scele ratisfiers can be specified in addition to the 5 special effects that can be added (see above).

  Video insert editing allows new video to be inserted over prerecorded segments without disturbing the audio segment.
- When inserting audio 16 bit (48kHz) full audio insert replaces recorded audio with new 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. Enables 1/10th speed slow motion playback in either direction plus a 10x zoom can be activated to zoom in on a portion of the
- picture. The remote controller can then shift this portion of the picture up, down, left, or right.

# PROFESSIONAL

-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 6Y-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

night sensitivity, low noise and natural color—at an increasine price.

\*\*Faetures:

\*\*Three I/3" CCDs provide a sensitivity of 2000 fux 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 fux and still have bright pictures with good resolution and strong, vivid colors.

\*\*Cull Auto Shotting (FAS) mode instantly adjusts to changes in shooting conditions.

You can go from bright outdoors to indoor lightling and gain, iris, audio level and color before will all be automatically adjusted.

You can go noto norm control so that and an analysis of the submatically adjusted.

Variable Scan View allows flicker-tree shooting of a computer monitor.

Has a built-in 14:1 (5.5-77mm) continuously wrafable 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 limider" function that records an identification code each time you start taping. This lets you easily advance to the next or previous scene when using the JVC Edit Desk system.

Large high resolution 1.5-inch viewfinder displays comprehensive status indicators.

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



Newly designed three 1/2" CCD image sensors deliver 750 lines of horizontal resolution & superto signal-to-noise ratho of 62d8

New micro-lens technology provides exceptional sensitivity of F8.0 at 2000 lax and LOLUX mode lets you shoot with almost no light! Shoot superto footage with excellent color balance at a mere 1.5 lux

Variable Scan allows flicker-free shooting of a computer screen

Duick 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 EFE Extended Electronic Iris which provides both yrariablo gain and variable EEI Extended Electronic Iris which provides both variable gain and variable shutter. Now you can shoot continuously from dark room to bright outdoors

Sindler: Now you can show common with the common and norm to any other shows the circuit lets you move from incandescent to fluorescent to undoor lighting without changing while balance or the filter wheel. "Qual output system allows camera output to be connected directly to an external recorder."

## uick-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 storely built-in frame provides

- Heavy duty shoulder strap & comfortable leather hand grip
- Carry if in crowds crush proof aluminum guard protects viewfinder. Fits into back soat 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 couch is an expandable battery chamber or all-purpose pockel.



borta



## "THE PROFESSIONAL'S SOURCE

FOR ORDERS CALL: 800-947-9938 212-444-5038

OR FAX (24 HOURS):

800-947-9003 212-444-5001

**OVERNIGHT AND RUSH** SERVICE AVAILABLE

E-Mail at 76623.570@compuserve.com

## SONY

SVO-2000 s-VHS Hi-Fi Editing VCR

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

Superb Video and Audio Performance

S-VHS format delivers 400 lines of horizontal resolution and

3-Vri3 furnat delivers and lines of industrial resonation and consistent, clear image reproduction for superior editing results.
- Adaptive Picture Control (APC) System for optimum picture per-formance. In record mode, APC automatically tests an inserted tape and checks the condition of the video heads. It then adjusts the VCR recording circuitry to capture images that are as clear and crisp as they can be. In Playback mode, APC automatically

sets the ideal balance of picture sharpness and clarity.

Hi-Fi stereo recording system has a wide frequency response of 20Hz to 20kHz and a superb 90dB dynamic range, and individual recording level controls for the left and right channels.



Editing Features.

 The SVQ-2000 has a Control-Edit Spin remote terminal that allows it to be controlled externally. Connects directly to RM-

With Control-S input and output terminals, two SVD-2000s can be connected for synchro editing, without the RM-250.

RM-250 also offers program editing capability, which allows

automatic sequential editing of up to 20 pre-assigned scenes

## SVP-5600 and SVO-5800

SVP-5600 and SV0-5800 features:
- S-VHS with high quality signal processing techniques like
DNR, Digital Fleid DDC and Chroma Process improvement, to
deliver the consistent picture quality so essential to editing.

deliver the cossistent picture quality so es They also incorporate a wide video head gap and track width (58mm) for stable and faithful picture reproduction. 
- Each has a built-in TBC plus an advanced Digital Noise Reducer (0NR) for both the chrominance and luminance signals to eliminate noise during playack. At the same time, a field memory incorporated in the noise noticer removes titler to

in the noise reducer removes litter to in the noise reducer removes jitter to provide sharp, stable pictures. The field memory, also includes a Digital Field DDC (Oropout Compensator), which replaces signal dropout with information from the previous field.

Chroma Process Improvement circuitry greatly improves the chroma bandwidth, thus enabling sharper and clearer color picture reproduction.

FOUR CHANNEL AUDIO SYSTEM

 Two Hi-Fi tracks provide a wide frequency response from in 20hz to 20hhz and a superb dynamic range of 90th. Two linear tracks incorporate Dolby B noise reduction for high quality sound reproduction. XLP connectors are used for the outs and outputs for all feur channels.

**MULTIPLE INPUTS AND OUTPUTS** 

 Both machines employ composite and S-Video connectors.
 With optional SVBK-170 Component Output Board, they provide component signal output through BNC connectors.

S-VHS Player/ S-VHS Editing Recorder ADVANCED EDITING FUNCTIONS

Both employ a sophisticated servo system, an improved quick response mechanism and built-in LTC/NTTC time code capability. This makes them ideal for animation and computer graphic recording, where a frame-by-frame editing function is tedispensable.

• Equipped with RS-422 9-pin serial interface.

• When connected to an RS-422 equipped edit controller, the SWD-5806

equipped edit controller, the SVD-5806 performs assemble and insert funcperforms assemble and insert func-tions and also provided audio split editing capability of normal audio tracks 1 and 2. In the insert mode, video, audio and time code can be inserted independently, or in any com bination.

**USER FRIENDLY OPERATION** 

Built-in character generator superimposes time code data, control track, menu setup and VCR function status on a monitor.

· For more efficient operation they have an on-screen setup menu which allows a variety of customized VCR mode opera

menu withch allows a variety or closifulized work mobile opera-tions. Programmed in the form of a layer structure, you sim-ply go through the menu and shiftatize VCR-operation. All parameters of the TBC, such as Juminance leved, chroma level, setup, hue, YIC delay, sync phase and SC phase are easily controlled from the tront panel, and can be remotely controlled from the optional UVR-RO TBC Remote Control, which also accesses field freeze function in the still mode and allows on/off control of chroma and luminance noise reducer

## Panasonic 👄

AG-1300

Industrial 4-Head VHS VCR

HR (High-Response) mechanism uses the full-locating taple transport system for quicker picture display, fast forward and rewind. Enlarged multi-function display gives all information at a glance. Indications for the time, recording or playback mode and other often used functions are easy to confirm from across a room. S-VHS guasi playback (SQPB) let's you playback S-VHS tages (in normal VHS resolution). On-screen display (in four languages) provides clear and easy to follow programming instructions. Industrial strength VCR, the AG-1300 features a rugged metal cabinet on an aluminum die-cast chassis. Includes full one-year war-

tures include: built-on head cleaner, automatic repeat, real-time counter, trame advance, high-speed search (27x in SLP mode) 181-channel tuner, one touch recording

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

Same exact features as the AG-1300 plus-\_

\* Super jog/shtuftle puts 19-step control over playback speed at your fingertips.

ou greater control while searching for scenes

eo sound system with a dynamic range of more than 90 dB



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

Incorporating advanced digital signal processing and digital noise reduction circuitry, the new A6-1980 delivers such high picture quality—that it's third-generation picture looks atmost as good as first-generation ofterings from other VCRs in it's class, in addition to it's incredible vade quality, the A6-1980 also features a full field pigital 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 Videonics, FAST and FutureVideo, the A6-1980 achieves an accuracy of ± 2 frames And, the 5-pin edit terminal on the rear material makes it leave seek to set in an editing system.

rear panel makes it very easy to set up an edding system.

• Performs all assemble and video insert edits as well audio video dubbing. Also has independent linear audio input and output for more flexible audio dubbing.

• Hi-Fi steren audio with a frequency response of 20Hz to 20kHz and a dynamic range of 90dB. It also has Hi-Fi recording level con-

trol, headphone monitor terminal with volume control and a mic input terminal

- Equipped with a Digital Comb Filter using an advanced 3-dimensional system the AG-1980 provides complete Y/C
- Equipped with a Digital Comb Filter using an advanced 3-dimensional system the AG-1980 provides complete Y/C
- (Iuminance/chrominance) separation. This practically eliminates color and luminance bluring.

- Field coefficient Digital Noise Reduction (DNR) circuitry processes the Y and C signals separately, thereby boosting the signal-to-

noise ratio and reducing make during playback.

Has a built-in-ful field TBC (Time Base Corrector) that eliminates even the smallest of jirter, skew, head impact error and color blukings, invaluable for editing, the TBC heliga-minitain 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 territe they

provide richer, more vibrant color reproduction and a higher signal-to-noise ratio.

-Advanced dual-loading mechanism leatures a guick response time, requiring only 0.5 seconds for a picture to appear from Stop mode and 1.9 seconds from FFREW.

## **DFS-300** DME Switcher

The DFS-300 features basic transitions such as wipes and mixes, as well as complex DMEs, or digital multi effects, it allows you to insert sophisticated patterns like picture—insert, mirror, sided and matrix wipe designs. With the optional MRUF-301 3D Effects board installed, you can perform three dimensional rolations, page turns, inorge visits, multi-splits and 30 spherical effects—in real time. No sitting around waiting for loading or rendering, With Ir's digital multi-effects, numerous keying options, 3D transitions and user-friendliness, the UFS-300 is in a league of its own.

## **POWERFUL MULTIPLE EFFECTS**

Up to SVD Effects

- 330 factory preset 2D effects and wipes stored for immediate use. They include wipe, compression, rotation, side, spiri, mirror, stream, etc. as standard.

- With the optional BOKF-301 3D board installed, 130 additional preset effects such as twist, page turn, sphere, etc. can be memorized and recalled whenever required.

Powerful User Program

Powerful User Program

Provides powerful, yet easy to operate effects program

Provides powerful, yet easy to operate effects program

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

signals. A fourth input accepts either component, R/G/B/Sync or

oplied to any input. Two program outputs provide composite, -video and component signals.

a computer generated RGB signal. Color correction can be

Effects Modification

To suif individual tastes, allows effects modification for some off the presel effects like mosaic, posterization, solarization, wave, multi-picture, strobe, trosted glass, cinema mode, efc.

Fine control over various parameters such as size, density and amplitude further enhances effects editing.

Transitions

1111 of the most frequently used wipes are available from the preset patterns and 13 of them are directly accessed with a

preset planems and it a to them are directly accessed with a gress of the keypad.

• Mixes, wilpes, as well as digital effects transitions can be per-formed manually or automatically. Automatic transitions can be wahed from 0.10 999 frames in duration to both foreground and ta ekground bus transitions and the DSK transitions.

## **HIGH PERFORMANCE SWITCHER**

Multi-Format Inputs/Outputs
Three primary inputs accept composite, S-video and component

Optional Down Stream Keyer

Optional BDKF-504 DSK (Down Stream Keyer), lets you introduce captions, characters, etc. with clear edge quality, after mix/effects processing. DSK key input accepts composite, component or RGB signals

· Position and type of the DSK are selectable and a box mask is provided to mask unwanted areas of the picture.

Luminance Keyer · Foreground sources such as titles, captions or figures can be

Built-in Matte Generator

Three matte generators for backgrounds, can be a solid color or one of 31 different textured patterns, border and effect matter than the solid color of the original control of the solid color of t self-keyed over a background source and rotated, compressed and positioned optionally in 3D space. signals. Also instantly selectable color bars, grid pattern and solid black. With the BKDF-504 DSK, you get two more matte Chroma Keyer · Superimpose video from a foreground source onto a backators for DSK matte and DSK border matte

ground source.

Clip and Hue can be controlled for clear and sharp key edges. . Any preset effect can be applied to the chroma keyed picture

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

Four different title modes offer the ability to perform key

Four one-entrule modes ofter the ability to perform key
effects such as liuminance levy, Chroma key, external key or
downstream key from a variety of linput sources.
 These black-burst outputs provide spendronization to equipment requiring syric signals. A genilock input allows the DFS-1300 to be synchronized to an external timing, source.

WE ARE AN AUTHORIZED SERVICE CENTER FOR SONY AND PANASONIC INDUSTRIAL & PROFESSIONAL VIDEO EQUIPMENT (800) 963-2525 - IN NYC (212) 206-8861 (24 HOUR SERVICE AVAILABLE)

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

Has amorphous video heads to yield a higher signal-to-noise ratio.
Achieves an accuracy of ± 3 frames with optional AG-A570 Edit Controller.
Buttim RS-232 provides machine control of playback, recording and editing functions from a computer. You can use the power of your computer (with optional software) to assemble hundreds of scenes, create edit decision lists and do complex editing jobs.
Auto Repeat function continuously replays a tape which can be sued for apps and growthen recorded material ends.
Separate Hi-Fi (Ch.170.12) audior recording level controls with display. There is also a headdhone notion with with wholems control.

headphone output with volume control.

For unattended recording there is a Sensor Recording function. When a video signal is detected the power is automatically switched
on and the AG-5700 begins recording.

ns the AG-5700 is ready to go. Weighs less than 13 lbs, extremely compact with a built- in carrying handle.

## **AG-DS540/AG-DS550** Professional S-VHS Source Player/ S-VHS Edit Recorder

3-dimensional digital TBC with a correction range of one field. With the VORs continuously retaining one field in memory, the data is used for 3 D type processing thereby providing excellent dropout compensation.
 Digital Signal Processing for improved picture guality, and for maintain-

ing 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 pro-viding reduced color and luminance blurning.

Employs amorphous video heads that have a higher magnetic coercivity than conventional ferrite heads.

Employs amorphous video heads that have a higher magnetic coepcivity than conventional territe heads.
 Expanded frequency response from the amorphous heads enhances, picture qualifylxly minimizing color blurring.
 Built-in LTCANTC (Longitudinal/Vertical Interval) time code reader/generators for absolute frame accurate editing.
 I/O (Intelligent Duest) mechanism delivers precise, high-speed operation. The dual-doding system ancheves high-speed response while protecting tapes and heads. The tape transport mechanism uses five direct drive motors, including two red drive motors.
 Performs audio split editing which last you set the editin and edit-out points separately from those for video.
 Capstan Control System with large capstan spinde allows high-speed search at 32x normal speed (with color picture).
 4 channel audio – 2 hi-fi stereo channels with dynamic range of 900B as well as 2 linear channels with Dobty NR. Each audio channellhas its own input (AG-0550 only) and output with individual channel-level-setting capability and use XLR connectors.
 Provide 1876 wide seased commatibility is the year fully emplored for the next engeration of televisions.

 Provide 16.9 wide aspect compatibility, so they are fully equipped for the next generation of televisions. . 3 rack units high, they are unbelievably compact for easy space saving installation. 19" rack-mountable with optional A6-M730.

## "STEP UP TO SUPERDECK \$1000 REBATE"

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 PHOTO & VIDEO"





PHOTO - VIDEO - PRO AUDIO

TO INQUIRE ABOUT YOUR ORDER:

800 **221-5743** • 212 **80**7-7479

OR FAX 24 HOURS: 212 366-3738

## 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 9-2 • Sat Closed

**EQUIPMENT LEASING AVAILABLE** 



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 thou-sands less than ever before, consists of the BR-S500U Player/Feeder, the RM-G800U Edit Controllor and the BR-S800U Editing Recorder. Linked via JVC's proprietary control bus, these three units ofter 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

### **OPEN ARCHITECTURE**

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

### CONTROL TRACK TIME CODE SYSTEM

Built-in time code reader (BR-S500U) and time code reader/genbonini inflie could reader (Br-35000) and mile could reader/gen-erator (BR-5800U) 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 profes-sional 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 last, 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-and linear channels. Separate input and output terminals are

## **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 goot for direct access to any edit point. A capstan bump function is provided to assure greater edit consistency.
   Bright LED counter indicates all edit data in either the TC or CTL mode. Switchable between player and recorder.
   The RM-GB0001's apic cannot be 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 meets.



**BR-D40** Digital Dockable Recorder

**BR-D80** Digital Editing Recorder

BR-D85 Digital Editing Recorder with Pre-Read

MILE SEE A

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

An afterdable, broadcast quality digital video recording and editing system, the Digital-S series reproduce images that not only are superior to any analog or digi-tal 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 mild compression to achieve and sustain excellent quality through multi-generation dubbing. eration 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 to use existing equipment.

Digital-S starts with the versatile BR-D40 Dockable Recorder. Designed to produce the highest quality raw tootage, the BR-D40 features automatic editing which utilizes a built-in time code reader/generator to ensure perfect, trame-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-085 with pre-read and sligital I/O or the economical BR-080. Completing the line is the BR-050 Player and the flexible BR-051 Player with S-VHS playback (Available Oct.96). Both players accept the optional SA-050U digital I/O interface card.

## **Broadcast Quality Digital Video**

- Ublize 4:22 digital component processing to add a rickiness and warmth unobtainable with any tesser system. In addition, only 4:22 stands up to the rigors of sophiscated chroma-key-ing, multi-generational editing, special effects, blue-screen compositing, marting, ATV upflewer conversion, and multiple transconversion between bi-ripression systems.
- Reproduces finest colored details and subtlest contrasts white minimizing artifacts using extremely mild compression ratio. Set to 3.3:1 with DCT-based intra-frame coding, Digital Syleids a data rate of 50 Mbps, plus it pumps out horizontal resolution of 720 pixels or 540 TV lines. S/H ratio is an incredible S5dB.
- Audio is recorded by 2-channel, 16-bit PCM signals with a sampling frequency of 48kHz. The audio is superior to CO 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

## 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 dustproof structure to increases 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 con-tinues 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 can de aucesseu i y sandaru euming cuntinanus. Sinecun ain misiseless, the image quality of slow metion is equal to regular playback and is avaitable within a range of a 1/3X. L'enghiudinal tracks include two auxiliary audio (sue) tracks an a postrol track for tracking purposes. Due tracks provide easy
- location of edit points which can be heard at any tape speed. Recause of its linear control track. Dinital-S has a short lock-up
- because of its singer control track, buyears has a short rock time which eliminates long per cills. This seature achieves a stable picture taster, saving preclous editing time. Auxiliary video (sub-code) area stores two selectable uncom
- pressed lines of video. Suitable for recording closed caption or other information located in the vertical blankino 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 an A/B roll editing with only two VCRs, instead of three

## **Operational Conveniences**

- Comprehensive a nalog inputs/outputs (composite, S-vider component), video and audio monitor output, RS-422 inte and VITC/LTC time cede.
- Joo/shuttle and system timing controls on the front panel
- Sourismine and system timing controls on the norm panel. Footage can be searched in color at up x32X mormul speed. They have a sell diagnostic warning system plus, an RS-232 diagnostic service service port measures digital data perfor-
- mance during playback. There is also a standard hour meter They also feature flying erase head, rack mount capability and built-in head cleaner.

## Y COLOR MONITORS

## PVM-1350 13" Presentation Monitor

- Employs a P-22 phosphor fine pitch CRT to deliver stunning horizontal resolution of 450 horizontal lines.

  Beam current feedback circuit eliminates white balance drift for long term stability of color balance.
- Has analog RGB, S-video and two composite video (BNC) inputs as well as 4 audio inputs.

  Automatic Chroma/Phase setup mode facilitates the complex difficults as the complex difficults. facilitates the complex, delicate procedure of monitor adjustment. Using broadcast standard color bars as a reference, this function automatically

- reference, this function automatically calibrates chroma and phase.

  Ohroma/Phase adjustments can also be easily performed with the monochrome Blue (bnyl display.

  Factory set to broadcast standar Secondary set of the Scook color temperature.

  On power up, auto deguassing is performed. These is also a manual degauss to demagnetize the screen.

  On-screen menu facilitates adjustments to be made on the knob control for contrast, brightness, chroma and phase. knob control for contrast, brightness, chroma and phase

PVM-1351Q 13" Production Monitor'
Has all the features of the PVM-1350 PLUSA multisystem monitor, it accepts NTSC, PAL and NTSC
video signals. NTSC. 4.3 can also be reproduced.
Equipped with a SMPTE 259M Serial Digital Interface, With optional serial digital Interface kill BKM-101C for video and the BKM-102 for audio the PVM13510 can accept SMPTE 259M component serial digital signals.

- 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 remote
- 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
- Aspect ratio is swinchable 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, synchurst image by displaying the honzontal and vertical intervals in the center of the
- Color temperature switchable between 6500K/9300K/User preset. 6500K is factory preset. 9300K is for a more pleas-ing picture. User preset is 3200K to 10,000K.

## PVM-1354Q/PVM-1954Q 13" and 19" Production Monitors All the leatures of the PVM-1351Q PLUS

- SMPTE C standard phosphor CRT is incorporated in the PVM-13540/19540. SMPTE C phosphors permit the most critical evalua-tion of any color subject. Provides over 600 lines of horizontal resolution.

  The PVM-13540 mounts into a 19-inch EIA standard rack with the optional MB-502B rack mount bracket and SLR-102 stide rail kit same as PVM-13510, The PVM-13540 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 POWER

## Animated Postscript Character & Graphic's Generator A technological and engineering breakthrough, the PowerScript sets new price/performance standards for broadcast video pro-

duction, multimedia and industrial applications. It delivers the huge range of titles and graphics supported by PostScript display technology, plus animation, effects, transparency and keying. It features 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

## Powerful Character Generator

- Powerful Character Generator

  Choose from 35 bittin hattis ar download hundreds of RostScript floats from your computer. It's high-speed RISC pracessor provides real-time PostScript Level 2 imaging.

  Characters can be stotled after any angle, scaled to any size, stretched hotzoutally or sertically.

  Syles include variable bold and flahe, underfine and shadow (drop statiow, variable displacement and opacity). Each character can be adjusted separately.

  Text can be positioned anywhere on the screen or automatically centrend, vertically or horizontally.

  Lett, 1gth, 1sp., bottom 5 center justification is provided as well.

  Characters are automatically dermed, using the foot's standard kenning internation.

  Spacing is lightly heable with variable word and letter spacing greating leading).

  Lettitive User Interface

## Intuitive User Interface

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

- wine anomer set of miles is being ossphayed.

  Roll, Crawl, Amirmation, Effects

  Variable speed roll, crawl and push (side) in all directions
  Every text object, graphic, and logo can be separately animated. Complex arimations include ability to have element
  follow paths, bounce, etc.

  Elements can change outline and/or fill color, transparency
  orosition as they cross and results are displayed in real time.
- position as they move and results are displayed in real time. Move individual characters in different directions, make colors charge; flash words; make letters and words bounce; spin a letter across the screen.
- Use effects like fades and wipes to transition between titles and video or between two pages of titles



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

- inear KEY output.

  Backgrounds and Graphics

  Titles can be placed on solid color, patterned or graduated backgrounds, or they can be gestocked to incoming sideo. Lines, squares, rectaggles, ovals and circles can be ereated and placed anywhere on the screen.

  Each graphic object can use a different color, transparency, rotaling, size, fill and outline.

  Transparency and Colors

  Characters can be made transparent (10-100%) over video.

- Characters can be made transparent (0-100%) over video, other characters and graphics with 64 levels of transparency.
   Opaque characters and graphics with 64 levels of transparency.
   Opaque characters can use over 4.000,000 colors; transparent characters can use over 8.000.
   Office and of the colors can be used for fill and outline (variable).
- width) as well as each letter and graphic. Imported Logos and Graphics

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

### **Expansion Capabilities**

Expansion Capabilities

PowerScript operates on its own but you can still add perigherals and connect to a computer or network. Two PCMCIA slots allow the addition of non-valiatie flash-RAM and Ethernet cards, and an RS-1232 serial pod allows connection to computers.

Built-in Test Generator
The PowerScript can generate standard video hest patterns
including color bars, crosshatch, ramp, gray wedge, multiburst and blackburst. Titles can be placed stop any of the

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



**FOR INFORMATION CIRCLE 129** 



## "THE PROFESSIONAL'S SOURCE...

FOR ORDERS CALL: 800-947-9938 212-444-5038

800-947-9003 212-444-5001

OR FAX (24 HOURS):

OVERNIGHT AND RUSH SERVICE AVAILABLE

E-Mail at 76623.570@compuserve.com

## **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

- 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 umbreila or get.)

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, diff dichroic filter, snoot & umbrella, gel-frame & flags.
- Optional cigarette, 4-pin and 5-pin XLR connectors,

## DRITA

## BSG-50

## Blackburst/Sync/Tone Generator

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

- 6 BNC video/pulse outputs
- Now available: 6 blackburst, 4 sync, 2 subcarrier
- Roving available of a particular of a spirit, a solution in the spirit of a spirit
- 1KHz, 0dB sinewave audio tone output, locked to video . Outputs can easily be configured to meet



## **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 curvement for producing tape leaders and striping tapes with milar hars and black
- on of full-field or SMPTE color bar patterns or colorblack (blackburst) video output.
  Includes crystal-controlled, 1KHz, 0dB audio tone output.
- Outputs video, sync, ref frame, 1 KHz, 0dB
   Audio tone switches to silence and color bars change to black when using 30/60 second timer

WE STOCK THE FULL LINE OF HORITA PRODUCTS INCLUDING: Window Dub Inserter Generator/Inserter

TG-50 -Generator/Inserter/Search Speed Reader TRG-50PC Has all of the above plus RS-232 control. VITC Generalor, LTC-VITC Transis

VLT-50 -VITC-To-LTC Translator VITC-To-LTC Translator / RS-232 Control RLT-50 -His /FVO-9800/9850)TC to LTC Translator NTSC Test Signal Generator SCT-50 -Serial Control Titler "Industrial" CG.

Time-Oate Stamp, Time Code Captioning Sale Area, Convergence Pattern and Oscilloscope Line Trigger and Generator

## The Ultimate 3D Rendering and Animation System for Broadcast Graphics

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

- Alighbawa 05 o. is also the only product to break the polygone/spline barrier with the introduction of MetaNURBS. MetaNURBS. performs real time transformations between polygons and splines, enhancing your ability to create organic 30 objects easily. MetaNURBS is the first tool to effectively utilize strengths of both techniques making it easier than ever to create stunning 30 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-Prop Frame Read/Write is fully programmable from an external computer and resettable from Video and Audio Switcher with Two independent Video and Audio Channels.

Note and Audio Switcher Wint I will independent vioce 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

## 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 exisiting video.

## 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 sit and replaces both the single frame record VCR and the single frame controller. Bad edits, missed frames, tape dropouts and other mechanical glitches common to traditional VCRs are a thing of the past.

Combines custom ICs and a proprietary implementation of the LSI chip set enabling component 4:22 digital recording to a dedicated hard drive.

dedicated hard drive.

The hardware adaptively samples each new video image to determine optimum quality. Although standard compression cabis don't apply you can expect four to live minutes of high quality playback from a dedicate 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 peniock input which enables it to be easily integrated with vir-tually 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 produce.
- Supports direct rendering of all common image formats including 24-bit IFF and Video Toaster frame store files and is fully compatible with all popular animation packages including Morph Plus, Lightwave 3-D, Fractle Pro, Imagine, Vista Pro,

## and characteristics. Real-time video capture for roto-scoping and other video capture annications is possible when used in combination with a

## 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 over-sampled video encoding, better than D1 scaling, component and S-Video out-puts, multi-processor support and FAST SCSI-2 hard drive controller, Perception ers your computer to rival the finest professional production studios.

- empowers your computer to rival the finest professional produThe 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 (0X2-66 or higher) Pentium, DEC ALPHA or
  MIPS processors. Perception's software utilizes NT 3.5's
  rative support for multilasking and multiple processors,
  allowing use with the most powerful computers.
  Petception's exclusive multi-format virtual file system
  resource complete integration with your existing Windows
- adviving both with mean though processing the system enteress complete integration with your existing Windows MT applications. Any acquired video or pomputer generated Perception video clips appear simultaneously in many different file fermats including TARGA, SGI, BMP and TIFF. Also compatible with new MT versions of Lightwave 3D, 3D Studio, TOPAS 5.3 Pro. Softlampage and Elastic Reality.
  Video output section utilizes 10-bit 2x oversampted encoding and provides breadcast quality CCIR-P01 (\*720 x480) in that images are brighter, have more color and govern spatial resolution. If is dynamic range is in excess of D1 scaling so that images are brighter, have more color and govern 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 audios is stored on the competer's system hand drive, not on the dedicated drives. The approach pravides maximum flexibitity for manipulating audio and video during editing.



real-time interpolation of 30 ftps video to 24 ftps film rates or vica versa.

Perception controls BVUI 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 filme code from the source deck.

Drivers for Wineboxs 3.1 are supplied as well so third party editing software like Adulte Premier can be used an fact the PSP-2000 formation and card, adding software and one or more SCSI hand drives becomes anyal-time and one or more SCSI hand drives becomes anyal-time are during the protocological an unbeatable price.

AD-2500 CAPTURE CARD

• The optional AP-2500 CAPTURE CARD
• The optional AP-2500 is a video to plusted a uphtercard, that transforms Penception into a digital video recorder. The AP-2500 has component, composite and S-Mideo inputs for real time recording and stronge capacity is familied only by the size and number of attached SCSI hard drives. Captured

size and number of attached SCSI hard drives. Captured video can also be exported as sequential RSB files for roto-scoping and other compositing applications. The AD-2500 isocoprotests a supulsafcated automatic entropy prediction circuit that analyzes the content of incoming video and dynamically calculates the optimum amount of compres-sion on a fell-by-light basis—even during real-time vecord-ing. You also have complete manual control over compres-sion level/quality settings.

Turnkey PVR-2500 Animation and Video Editing System:

Turnkey PVH-250U Animation and Video Editing System:

-PVR-250U Preception Card - AD-2580 Capture Card - 220-vaid, 6-bay midtower case - PCI motherboard with 256K cache

-Pentium 120 MHz grocessor - Diamond Steatth64 Video 2MB DRAM PCI display card - Quantum 1.2868 IDE system diver

-284M6 of RAM - Seagate (Barcauda) a 4.268 PSS-12 - Narrow hard drive - 3.5" (Dioppy drive - 3.5 shiba 4.4 FIDE internal CO-ROM
drive - Creative Labs Sound Blaster 16-bit sound card - After-Lansing ACS-51 two-piece speaker system - Princeton Ultra 17
thigh resolution 77" multiscan monitor - Ficus 2001 Alxeyboard - Mecrosoft MS mouse MS-00S 6.22 & Windows

3.11 operating system selfware - Adobe Premiere 4.2 for Windows video editing software

7495.0

Additional Options: Windows NT 3.51 operating system software, Newtek Lightwave 3D 4.0 animation software

## PROFESSIONAL VIDEO TAPE



G-30 <b>2.</b>	29 PG-60	2.49	PG-120 <b>2.69</b>
S	uperior Grade (	Couble Cod	led VHS
G-30 <b>3.</b>	39 SG-60	3.99	SG-1204.49
	<b>H471S S-VHS</b>	Bouble Co	ated
T-306.	99 ST-60	7.49	ST-120
	M221 HI 8 0	ouble Coa	ted
Metal Pa	rticles	Metal B	vaporated Position
630HMP	4.99	E630HM	E8.39
660HMP	6.49	E660HM	E10.49
6120HMP	8.49	E6120H	иЕ13.99
	M321SP Meta	l Betacam	(Box)
5S	17.95	10S	18.49
0S	19.95	30S	22.95
in	31 95	901	49 95

## **AMPEX**

ST-30A7.49	ST-60A		ST-120A	7.99				
	na	XP		1				
maxell.  BQ Certified Hi-8 Metaj Gassettes								
P6-30 HM BQ				6.09				
P6-120 HM BQ								
	/I PLUS Ex			20.13				
T-30 Plus1.69				2 09				
T-120 Plus								
	HGX Gol							
TC-20				3.39				
	PLUS Expir			-				
HGXT-60 Plus				2.99				
HGXT-160 Plus								
			i VHS (Box)					
T-30 BQ5.49				7.39				
			IS (In Box)					
ST-31 BQ				8.09				
ST-126 80								
	BQ S-	VHS-C						
STC-20BO	7.99	STC-30B	0	10.99				
	KCA 3%" U	Matic B.Q	l.					
KCA-5BQ 8.45	KCA-108	D8.95	KCA-20BO	10.22				
KCA-30BQ	11.31	KCA-60B	Q	14.97				
		am SP						
B5MSP15.75								
B30MSP20.50	B60MLSF	29.75	B90MLSP.	46.49				

### **DV 6mm DIGITAL TAPES** Panasonic .95 AY DVM-60EA. AY DVM-30FA 13.50 9.95

## Sony 15.99 DVM-60ME 19.95 DVM-30ME

### Hi-8 Professional Metal Video Cassettes P43-30 HMPX 4.59 P6-30 HMEX .7.99 P6-60 HMPX P6-60 HMEX. P6-120HMEX P6-120HMPX. .15.49 8.89 NEW! Hi-8 Metal Evaporated Editor (HMEAD) E6-30 HMEAD ...16.49 E6-60 HMEAD 14.89 E6-120 HMEAD PR Series Professional Grade VHS T-60PR......2.59 T-120PR 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 T-60BA......3.99 T-120BA

MO Master Quality S-VHS (In Rox) MOST-120.. M:QST-60 BRS 3/4" U-matic Broadcast Standard (in Box) KCS-10 BRS (mini) ......8.29 KCS-20 BRS (mini). ..8.99 KICA-10 BRS 8 19 KCA-20 RRS KICA-30 BRS. KCA-60 BRS ....9.69 13.39 XBR 3/4" U-matic Broadcast Master (In Box) 44CS-10 XBR (mini) ... ...8.79 KCS-20 XBR (mini). .10.19 KICA-10 XBB 9.29 KCA-20 XBB KCA-60 XBR KICA-30 XBR .15.69 11.99 KSP 31/4" U-matic SP Broadcast (in Box)

kgSP-S10 (mini) ... 9.59 KSP-S20 (mini) 11.69 KSP-20 .. 11.59 KSP-30. 12.99 KSP-60 .16.99 8CT Metal Betacam SP Broadcast Master (Box) BCT-5M (small) 14.99 BCT-10M (small) 15.99 BCT-30M (small)

18.99 21.49 BCT-30ML BCT-60ML BCT-90ML **BCT Metal Professional Series** .... 18.95 UVW-60MLA... UVW-90MLA 39.95

# FOR PHOTO & VIDEO" == == ==









PHOTO - VIDEO - PRO AUDIO

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 10-4:45 • Mon & Tues 9-6 • Wed & Thurs 9-7:15 • Fri 9-2 • Sat Closed

EQUIPMENT 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

- Iruly switchable balanced mic level (800 ohms) to unbalanced (10 d8m) output.
   dbx noise reduction to simultaneously increase dynamic range and eliminate noise.
   Receiver squelch, level & headphone level output controls.
   Can be powered by a 9V battery for 10 hours.
   SH-2 hand-held transmitter can be used with mic elements like Shine SM-5 Set Persente for AU for Teches Or AU.
- like Shure SM 58 dynamic mic or Audio Technica Pro 4.

   ST-2 (L) body pack transmitter can be used with leading lavalier mics like Sony ECM-144 or Audio Technica 831.

#### **Lavalier (clip mic) Systems**

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

#### **Hand-Held Systems**

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

#### **SUPER TD SERIES TRANSMITTERS**

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

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

Sony ECM-144	507.95	Sony ECM-44	544.95
Sony ECM-55	653.95	Sony ECM-77	724.95
Senheiser MKE-2	747.95		





#### MKE-300 Short Shotaun

- 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
- Meal for mounting on cameorders with an integrated stope assembly and an extremely lightweight compact design.
   Tight, supercardioid polar pattern has the ability to pick up only those sounds that correspond to the scene being filmed and rejects any disturbing ambient noise.
   Integrated wind screen eliminates handling and wind noise.
   Operating time of over 200 hrs. using its own built-in battery so will not put added strain on your camcorders already limited power supply.

#### **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 omnidifrectional to highly directional shot-gun, as well as special application lavaller microphones.

#### K6

Microphone handgrip and power supply capable of battery/phan-tom powering all microphone capsules in this series. One "A4" battery supplies power for approximately 150 hours or phantom power (12-48 volts). The K6 power supply has an integrated base roll off switch and on/off switch with LED indicator for battery condition.

#### **ME 66**

Short sholgun capsule. All sound coming from the rear and sides of the ME66 is greatly attenuated, thus allowing this microphone to pick out specific sounds in noisy environments. Great for interviews in crowded situations, as a camera microphone for electronic news gathering (EMG), for unobtruske thealer sound reinforcement and as a podium mic. Frequency response. 50-20KHz 2.5.0 is 1988. 1999. ME66 with K6 Powering Module 429.95

#### **ME64**

#### **ME62**

# MAKEKIE

#### MICRO SERIES 1202-VLZ

#### 12-Channel Ultra-Compact Mic/Line Mixer

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

• Working S/N ratio of 90dB, distortion below 0,025% across the entire audio spectrum and 2-86 dB halanced microline 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 +dde.

• Switchable phantom-powered (48y) inputs for condenser mics.

• Every input channel has a gain control, pan pot, low E0 at 80.

• Hz, high E0 at 12.5 kHz and two aux sends with 20dB gain.

• Master section includes two stereo returns, headphone level control and metering.

• Sealed rotary pots resist and other contaminants.

60mm log-taper faders are

accurate along their whole length of

# NEW! MS1402-VLZ

14 x 2 Compact Mic/Line Mixer
Mackie's Itanatical engineers have done it again. Balanced inputs and outputs, 3-band
EQ, AFL/PFL and deluxe tape monitor's Control Boom teature Nice long 60mm laders,
six studio-quality mic preamps and extra All 3-4 stereo bus—in less than 1.3 square

- Studio grade mic preamps (chs. 1-6) with high headroom, low noise and phantom power. Also incorporate low cut fillow liose and phanton power. Also incorporate low out in-ters to cut mis handling thomps, pops and wind noise. Lets you safely use low shelving EO on vocals. Trim controls (ch. 1-6) with ultra wide range (+10 to -40d8) handle everything from hot digital multitrack feeds to whisper-
- ing lead singers and older, low output keyboards.
  Pan 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.

 bringing it into the main mix or creating a " mix minus"
 Solid steel chassis instead of aluminum or plastic. The new MS-1202, 1402 and 1604 all include VLZ (Very Low Impedance) circuitry at critical signal path points. Developed for Mackle's acclaimed 8•Bus console series, VLZ elfectively reduces Thermal noise and minimizes crosstalk by raising current and decreasing resistance.



THE PROPERTY OF THE

accurate atong their whole length or travel and employ a new long-wearing contact material for longer fader life & uper resistance to dust, smoke etc. Control room/phone matrix adds incredible tape monitoring, mixdown and live sound versatilit y. Multe switch routes channel output to extra ALT 3-4 stereo bus. Use if for feeding multitrack recorder channels, creating a sub-

group via controlroom/phones matrix, monitoring a signal before

# NEW! CR-1604 V **16-Channel Mic-Line Mixer**

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

- power pan controls, 10-segment LED output metering & discrete in Lowest noise and highest headroom (90 d8 working S/N and 108 d8 dynamic range). Many drummers consider it the only mixer capable of handling the attack and transients of acoustic and electronic drums.

  Genuine studio-grade phantom powered, balanced input mic preamps on channels 1-6. All CR-1604 VLZ (and optional XLR10 for ten more) discrete input mic preamp stages incurporate four conjugate-pair, large-emitter geometry transistors. So, whether recording nature sound effects or heavy metal, miking flutes or kick drums, you get the quietest, cleanest results possible.

  \*\*True 4-bus design with channel assigns to 1-2, 3-4 or main L-R.
  - 3-band EQ with mid-frequency sweep and

  - 3-band EU with mid-frequency sweep and low cut switch.
     AFL/FFL solo and mute switches with overload and signal present indicators.
     Rear panel features include insert points and 1/4-inch /XLR connectors on every channel, as well as RCA tape inputs/outputs.
     New, standard size channel trim pots are found at the top of each channel.
  - each channel.
     Rotary input/output "pod" allowing three different positions

# AZDEN PRO SERIES VHF WIRELESS MICROPHONES

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

#### **COMPLETE SYSTEMS** WMS-PRO

#### **WLX-PRO**

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

#### WHX-PRO

- Handheld microphone with built-in transmitter
   No wires, no beltpack, no tangle-hassle free
   Operates on one AA battery for up to 8 hours
   Has a combination on/off-mote switch for quiet switching
   Includes shoe mount, velcro, earphone monitor .....189.95

## **PRO SERIES COMPONENTS**

#### WM/T-PRO

#### WR2-PRO

## 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 for-quencies, the Producer series has a range of 300° and is offered in handheld lavalier or plug-systems. Each Producer series system comes packaged in a black leatherette carrying case.

#### 111R RECEIVER

The heart of the system, the 111R Receiver features output volume adjustment, balanced or unbalanced output capability and adjustable mute/squelch. It also has headphone output with volume adjustment, removable rubber ducky antenna and 9volt battery or DC 12volt power input, it includes a mini-mini output cable, with mini to XLR & mini to phone plug, available as options.

- 31 HT HANDHELD TRANSMITTER High quality uni-directional dynamic element Unique rubber-coated durable ABS housing for comfortable feel
- Unique rubber-coated uniform AbS Thousing for control to and low handling noise
   Has 3-position power switch with standby for muting the audio
   Supplied with additional range-extender antenna

#### 31 LT LAVALIER BODYPACK

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

## 31 XT PLUG-IN

- Unique plug-in transmitter turns any dynamic "wired" microphone with XLR output into a wireless
   Full range of on-board controls, including power an/off, audio mote and status LED.
   Input level control for maximum flexibility.

NRG power belts are the ultimate power solution. They provide the power to run lights, camcorders and decks without the lear 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
- Power chassis with dual 3-pin XLR inputs allows for pack interchange without shutdown.
   2500-cycle cell life provides lowest cost per cycle.
   Microprocessor-controlled 5-step multi-color power indicator display.
   Belt with cellpack weighs only 4.9 lbs for all day comfort.
   Dual outputs allows simultaneous powering of two devices (eq. 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- bett and power chassis, 12-voit 10-amp cell pack, model 600 overnight charger and comprehensive owners' manual. Firs 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 niced power pack (removable).

   Rugged high-grade, black leather belt case; chassis assembly with dual 3-pin XLR inputs for pack interchange without shutdown.
- without shutdown.

  Bell with cellpack weighs a comfortable 7.5 lbs.
  Includes Power-MAX belt and power chassis, 14-amp cell pack in 12V or 13.2 voll configuration, model 600 overnight charger, comprehensive owner's manual. Filts 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** Professional Dr. On-Camera Light
Pro combines the ruggedness, light
Pro Combines
Pro C



cious battery power by using only the power required for the selected light level.

- Accomodates bulbs from 20W to 100W DC.
- Prismatic dispersion grid provides smooth ever light ouput and reduced glare without changing

- light intensity.

  Sturdy all-metal click tilt mounting bracket with ratchet action. Eliminates shake under action shooting conditions.

  Optional barn doors enhance light control capabilities.

  Front retainer assembly pops off or instant bulb access without the bother of screws. Rugged milled aluminum light head disperses heat and provides years of service under adverse conditions.

#### **POWER STATION-2 SERIES**

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



85-264 volts worldwide auto-adjusting input (just plug in).

Supply is fully protected from overcurrent.
 Ultra-light weight - under 3 lb.
 Outstanding 300,000 hour mean time between failure is far.

in excess of any other manufacturer.
Ultra-efficient PWM regulation generates far less heat than

linear type supplies.

Provides the ultimate in performance and reliability in a universally compatible and compact package.

# Camera & Video

Order Toll-Free (US & Canada): 800-220-2224

Information & Orders: *212-633-2290* 

Customer Service: 212-633-6807 212-633-7717

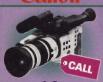
tscamvid@aol.com

650 6th Avenue (corner 20th street) New York, NY 10011

Camcorders · VCR's · Monitors · Editors · Mixers · Tripods · Lights · Batteries · Microphones







L-2	CALL
CL8-120 15X Lens	459.95
CL8-7-69 8X Lens	299.95
CL5-15 3X Lens	549.95
CL260 F4 Reflex Lone	539.95
CL16-100 10X Image Stabilization	.CALL
CL-2X Extender	299,95
EOS Adapter VL	299.95
FS-72U Filter Set	.99.95
HC-2000 Siystem Case	239.95
RS-1000 Rain Shield	49.95

#### NEW! ES-3000





O CALL



#### S-VHS VCR'S

Domo	sonic
PV-S4566359.95	
PV-S4680439.95	PV-S4690679.95
J	VC
HR-S5300 474 95	HR. 57200 584 95



• Industrial S-VHS • 3-CCD • Digital Signa Processing • 750 Lines Of Resolution

#### New! AG-456



Low Light Shooting • Variable Digital Functions

#### AG-EZ1 Kit 3-CCD Digital Video Campo



lewinger 270,000 Pixel CCD 10x1 Optical Zoom • 20x1 Digital Zoom SHAN-MC1 Mic Kit I/AG-EZ-1.....

#### AG-1980 S-VHS Editing VCR



#### AG-DS540/AG-DS550 S-VHS Digital Editing System



#### New! AG-DS850H/840 call for Configurations

AG-188574.95	AG-1310	219
AG-1951029.95	AG-25401	319.
AG-5210		
AG-5700 S-VHS Hi-Fi RS-2	32 Editing VCR	.7409.
AG-A570 Editing Contr	oller	599.
AG-A96 Editing Contro	ller	379.
AG-W1 Multi Standard S	ingle Convert	erCA
AG-710 Player 12V DC		CA
AG-720 Recorder/Play	er 12¥ DC	CA
AG-750 S-VHS DC		CA
Video F		
AG-FP50 1149.95	AG-EP66	749

AG-EP50 1149.95	AG-EP66749.95
PT-L290 Proj CALL	AG-EP80949.95
	nitors
CT-1331YCALL	CT-1384VY299.95
CT-1384Y249.95	CT-2084VY374.95
CT-2084Y359.95	CT-2584VY579.95
CT-S1390Y299.95	BT-S900Y 879.95
RT-S901V 634 95	BT-\$1000N 614 96

BT-S901Y634.95 BT-S1380Y809.95	BT-S1000N	614.95
VCR/Moni	tor Comb	os
AG-513A379.95		389.95

ad certified check or money order for increditate shipment. Allow 20 days for hank clearance on hecks. Add shipping, handling and insurance charges (non-refundable). Merchandise exchangely of flound defective. Returns must have plot aphonapides and include invoice copy, original of blank warranty card. For your protection, all crade card actives are throughly verified. Processing the control of the control o

New! GY-X3U



. CALL



GV-PT1 Printer	Stock			
KY-27U 3-CCD Dockable Video Camera	CAL			
BR-S378U899.95 BR-S822DXU	CAL			
SR-S360U859.95 BR-S622DXU	CAL			
BR-S525U	CAL			
JVC Monitors				

JVC Monitors	
M-550U 5.5" AC/DC	609.95
MA-9U	409.95
M-91SU 9" S-VHS	489.95
M-900SU 9" S-VHS AC/DC	
M-131SU 13" S-VHS	254.95
M-1400SU 14" S-VHS	634.95
M-2084SU 20" S-VHS	
M-2784SU 27"	
. 210100 21	

#### JVC Edit-Desk



38-S500LJ	S-VHS	Player	SPECI
Mi-GBOOL			PRIC

SAK-26U CALL	SAN-50UCA
SAR-50UCALL	SAK-37U
SAK-33U CALL	SAK-27U CA

#### GO.VIDEO

359.95 GV-8020 469.95 GV-4010

#### Video Tape

Fuji		
T-60 HQ. 1.95	STC-30 S-V/HS-C.,5.2	
T-120 HO 1.99	STC-40 S-VHS-C 7.5	
T-160 HQ 2.49	P6-30 8MM2.1	
T-60 SHG 2.59	P6-60 8MM2.5	
T-120 SHG2.39	P6-120 8MM25	
T-160 SHG3.19	P6-150 MP4.6	
T-20 SHG2,79	P6-30 NG21	
T-30 SHG3.29	P6-60 HG3.1	
T-120 AV Master .4.29	P6-120 HG3.8	
T-120 AV Master (Box) 5.39	P6-30 Hi-8MP 3.4	
ST-30 S-VHS5.35	P6-60 Hi-8MF4.0	
ST-60 S-VHS 5.89	P6-120 Hi-8MP .4.8	
ST-120 S-VHS 5.29	P6-30 Hi-BME	
ST-160 S-VHS 6.99	P6-60 Hi-8ME7.6	
STC-20 S-VHS 4.25	P6-120 Hi-8ME 9.8	

Fuii	M22	1 Hi 8mm	
		P6-60 HMP	6.4
P6-120 HMP	8.89	P6-30 HME	7.8
P8-60 HME	.10.39	P6-120 HME .	13.7
Fuj	i H47	71 S-VHS	
ST-30			8.1

S	T-120	
	Sony Pro	ofessional
N	AOST 30 S-VHS 7.10	MOST 60 S-VHS 7.65
N	AOST 120 S-VHS 7.99	P6-30HMPX 4.69
P	6-120 HMPX 8.35	T-30 PM VHS 3.59



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	
Versalite Pro 100 W DC/300 W/AC.	
Lite-Rite In-Line Light Control	118.00





Canada a Ta	
Pro	Series
WHX-PRO 164.95	WLX-PRD139.95
WLX-PRO/1144.95	WMS-PRO149.95
WDR-PRO 199.95	WR2-PR0154.95
WM/T-PRO114.95	WL/T-PR079.95
WR-PRO79.95	WMS-20089.95
ECZ-99053.95	DMH-80S49.95
CAMA 2 AA OE	DM-100 60 05



661	VR/HT Multi Channel VHF	CALL
661	VR/LT Multi Channel VHF	CALL
151	VR/LT Wireless Lapel MIC	132.95
	VR/HT Wireless Hand Held	
351	VR/LT Wireless Lapel	154.95
	VR/HT Wireless Hand Held	
VCI	M-100 Boom MIC	44.95
	M-500 Stereo Boom MIC	
CTN	M-600 Unidirectional MIC	44.95
	M-200 Monitoring Headset	
	M-300x Audio Mixer/Video Fad	
MC	M-400 Portable Audio Mixer	39.50

from 4 to Glidecam Dual					
Glidecam Body	Pro				119.
Camcrane 100					429
V-16 (f/cameras)	weighing	trom	10 10	20 lb	s)CA
V-20 (f/cameras	weighing	from	15 to	26 lb	SI CA

A CONTRACTOR OF THE PARTY OF TH	
Imagine that your camcorder seem:	s to be
floating, balanced at all times. Supports	
and VHS-C camcorder up to 4 lbs	349.95
Steadicam Custom Travel Case	59.95
L-Type Adapter Kit f/Canon L-1/L-2	62.95
Steadicam Jr Pal	539.95
Steadicam Video SK	CALL
The second secon	

Cine-Video Tripods				
	Legs	w/o Head	w/3063 Head	w/3066 Head
	3061	211.95	301.90	476.90
	3068	174.95	264.90	439.90
	3181	162.95	252.90	427.90
	3185	217.95	307.90	482.90
	3190	312.95	402.90	577.90
	3191	312.95	402.90	577.90
	3058	250.95	340.90	516.90
	Fo		dized finish	
			4 11 1	

## percor



JB-5D Hi-Capacity 10
Replacement Batteries Available
(/ All Cemcorder Models ... CALL

o the needs of any user. wer Pro - 12 voit/10 Amp.. wer Max - 12 voit/14 Amp e Dual Outputs Include Cigi Available Duel Outputs Includ 4 pin or 5 pin XLR on any Cell Pack 12V 10 Amp Cell Pack 12V 14 Amp Cell Pack 13, ZV 14 Amp Campak 12V

We've got a bold new look, but we're the same old Tri-State Camera & Video you've known for great prices and even better service for over 19 years!

- year harters and one who

Desktop Video · Hardware · Software · Drives · Boards · Monitors ·

Software Asim CDFS CALL Zip/Jaz Tools Page Stream 3.1. Invoice It.... Disk Magic Cross Mac. .39.95 .59.95 .74.95 .164.95 Organizer

AMI TCP/IP 4.1.
Image F/X 2.6.
Epson Stylus Driver.
Image Master R/T

Data Store .99.95 229.95 .38.95 .68.95 .99.95 Address It .... 37.95 TV Paint ...... Directory Opus 5.0 ... Cross Dos Pro 6.0 ... CALL .59.95 .69.95 ..94.95 ..CALL

Studio Printer 2.1.

Quarterback Tools .. Disk Salv..... Termite TCP

Quarterback

101.95 CALL

..CALL

.59.95

#### **Printers**



Epson Stylus Pro	.445º.95
Epson Stylus XL	
Fargo Foto Fun	
Fargo Primera Pro	.1269.95
Canon BJC 610	439.95
HP Deskjet 600	179.95
OKI OL 600E	389.95
HP Laserjet 5L	489.95
We carry a full line of	printer
refills and accessorie	es for:
Canon, Epson and Fa	argo.

#### Monitors



CD Solutions 1401	539.95
CD Solutions 1703	CALL
IDEK MF 9017E	829.95
IDEK MF 9021E	CALL
Sony Multi Scan 17SFII	859.95
View Sonic 17GS	710.00
CTX 2085	.1149.95

#### Amiga Toaster & Flyer Configurations



#### **Video Toaster Systems**

#### Basic

- Intermediate

#### Advanced

- 060 50 mhz
   32 mb
   2.2 Gig HD
   8x CD-ROM
   Toaster 4000 Version 4.1
   14 inch Monitor

#### System Special!

- A-4000 Desktop 060 50mhz ram 2.2 Gig HD 4x CD-ROM High Flyer w/Power Supply Toaster 400 Ver 4.1 14 inch Monitor

(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
Wine Studio	129 95
Alpha Paint	364.95
Wave Maker	189.95
Hollywood FX	CALL
Control Tower	134.95
Navigator	82.95
Audio Thunder	In-Stock
Audio Black Box	
Pro Mix	CALL

#### Hardware

Little Magic Box	619.95
Sync Trap	
Y/C+	
Y/C+ Toaster Calibrator	149.95
Drive-In Case	
Octpuss Cable	
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!

#### **Video Flyer Systems**

#### FREE! 6X CD-Rom with any Flyer System Purchase Basic

#### Intermediate

Advanced Video Flyer Version 4.1
Drive-in Case AV 9 Bay
1—9.0 Gig Video HD
Ctupus Cable 1—4.3 Gig HD
1—1.3 Gig Audio HD

#### **Professional**

#### System Special!

Video Flyer
Drive-in Case AV 9-Bay
2-32 Gig Video HD
1-2.1 Gig Audio HD
Octupus Cable

(Limited Quantities)

## 19 years of satisfying customers! Custom Configurations our Specialty!

# **Drives**

#### CD ROM's Optical's **Hard Drives**

lomega Jazz 1 gig Internal..434.95 lomega Jazz Cartridges......CALL lomega Zip 100 External....149.95 lomega Zip Cartridges (3pk)..49.95 Syquest EZ Flyer.....230.95 Exa-Byte 8505 XLI 8mm 7-14 gig ..CALL 3-1/2 & 5-1/4 HD Cases ......89.95 Seagate 51080N 1.08 gig...299.95 Seagate 32140A 2.1 gig .....259.95 Quantum Fireball 1M 2.1 gig..279.95 H.P. 2.1 gig SCSI..... Teak 6x CD-Rom SCSI ......179.95 Panasonic 8x CD-Rom SCSI ...219.95

#### PC Hardware

. O manaria	
Matrox Millenium 2mb	.259.9
Matrox Millenium 4mb	369.9
Millenium Ram Upgrades	CAL
Oiamond Fire GL (Open GL.	.CAL
Glyder 3D	CAL
Imagine 128 Series II	
Audio Trix Pro	.252.9
Tropez Plus	.232.9
Fast A/V Master	.884.9
Targa 1000	.899.9
Pentium Overdrive Chips.	CAL
Adaptec 2940 UW	

#### **PC Software**

Netscape 2.0	44.9
Microsoft Office 95	CAL
Clean Sweep 95	39.9
Windows NT 4.0	294.9
Windows NT 4.0 Upgrade Ir	-Stoc
Zip-It	41.9
Norton Utilities	82.9
Adobe Photoshop	559.9
Fractal Design Painter	364.9
Adobe Premeire Ver. 4.2.2.	.519.9
Video Action NT	CAL

#### 3D/Multimedia

World Construction Set	549.9
Poly Form	144.9
Mesh Paint	339.9
Animator Studio Piro	439.9
True Space	482.95
Scala MM100	244.9
Sound Forge 4.0	.294.95
Director 5.0	.829.95
Win Image Ver. 4.0	254.95
Final Effects	CALI
Hollywood F/X	
Vista Pro	68.95
3D Studio Max	CALI

#### 3-D Animator Systems

Intel Pentium 166 mhz
• 512K Cache/64mb Ram
• Matrox Millieum 4mb
daptec 2940 • 6x CD-Rom
• 2.1 gig Scsi IIHD
• Keyboard & Mouse
• 16 Bit Sound Card
• Windows NT 4.00

Intel Pentium Pro 200 mhz

\*512K Cache/128 mb Ram

\*Diamond Fire GL Graphic Card

\*Adaptec 2940 UW

\*8x CO-Rom \*4.2 gig Scsi HD

\*16 Bit Sound Card

\*Keyboard & Mouse

\*Windows NT 4.0

#### **Computer System**

Dec Alpha 21164 300-330 mhz
• 2mb - 8mb cache
• Fast SCSi II interface

Fast SCSi II interface

2—serial ports

1—Bi-Directional Parallel Port

2—PCi 64 Slois

2—PCi 20 Slots

3—ISA Slots

1.44mb Floppy

400 Wast Power Supply

Window NT 3.51

CALL

"We can custom configure any PC system to your speed or price'

#### LIGHTWAVE 3D Lightwave 3-D 5.0 Upgr.....CALL FX Kit f/Lightwave 5.0......CALL ....CALL

## .136.95 .394.95 Lock & Key .... 154.95 Impact Amg/Intel.....194.95/319.95

We also carry Alpha versions, some above listings, call for pricing.

# 3-D Objects & Texture

Moving Textures 100	CALL
Moving Textures 200	239.95
Corporate Backgrounds	129.95
Snap Maps I & IIeach	119.95
Solar System Kit	89.95
Solar System KitSurface Pro	68.95
David's House	
Ultimate 3D Objects	
Accuris: 18 Perfect People	
Interior Design CD	
Light Rom #3	48.95
Humaniod V.2.0	CALL
Plaid Companion	
1724	

#### DIGITAL

**Processing Systems** 



DPS tbc IV	794.95
DPS V-Scope	779.95
DPS Remote	
DPS Perception	1585.95
DPS Perception Audio Card	In-Stock
DPS Live Capture Option	CALL
DPS Perception Combo	CALL
DPS Par-Amiga/PC	1599.95
Speed Razor Mach III	CALL
Speed Razor 35 Upgrade	In-Stock

#### HORITA

WG-50 Window Dub Insener	.259.95
TG-50 Generator/Inserter	344.95
TRG-56 Gen/Search Speed Read	er/
Inserter	
VLT-\$0 VITC to LTC Translator	259.95
PG 2100 Portable Mini Time Code	
Generator	219.95
PR-232 Port Mini Time Code-to-	
RS232 Reader	169.95
VG-250 VITC Gen/LTC to VITC	
Translator	259.95
VLR-100 LTC Gen, VITC/LTC Read	er
w/LED Display	539.95

#### Specials!

Type Smith Amg \$51"

#### SONY

4x Seci CO-Rom Interval #13

#### AMIGA

DOS 31 Upgrade Kits CALL Internel Kits CALL

#### BLIZZARD

060 50 MHz I/A-2000 w/SCSI II \*819

#### LIGHTWAVE

5.0 Intel "999"

Why does MICROSEARCH have so many clients?

Access Houston Amoco Oil · Allied Signal · Baker Performance Chemicals · Access Houston Amoco Uni Allied Signal Baker Performance Chemicals EXXON

Channel | Production City of Houston Value Decisions Channel I Production City of Houston City of Waco Lakewood Church KPRC/TV Lakewood Church KPRC/TV Lakewood Church Control Cont Houston Art Institute . Koka Productions . KPKUTV . Lakewood Unurch . VII Education . Pasadena ISD . Region VII Education . Pasadena ISD . Charles . McNee Communication . Charles . Charl Center MW Kellogg MicNee Communication Pasadena ISD Region VII Education Texas

Service Center Rockwell Sharpstown Lither Andrews Contact Cont Service Center • Rockwell • Shell Ull • Spring ISD • Snarpstown 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 Fax: (713) 995-4994 Voice: (713) 988-2818

Website: http://www.microsearch.com

## Authorized Dealers for:

N = w T = k

Autodesk.







SPEED~AAZOA

LIGHTWAVE 3D

3D Studio Max

Compaq

SOFTIMAGE 3D

AV MACTER"

PERCEPTION TO

INTERGRAPH



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, jerkfree video and audio playback.

Spindle Speed Model Capacity Avg. Seek 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 Fast SCSI-2 5400rpm

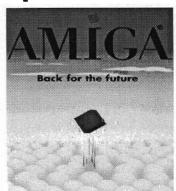
\* Also available in a Wide SCSI configuration.

#### SOFTWARE-GAMES-A1200-A4000T-ALL AMIGAS-CALL!

# 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
Iliyama monitors 17"
Villagetronic products
SuperGen SX Bundle
SUPRA modems
Web Surfer/Internet
We've Got It!

RDWARE-REPAIR-UPGRADES-MODEN



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 AIV EDITING SYSTEMS-MULTIMEDIA-NETWORKING

# Atlanta, Georgia

VIDEO TOASTER



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

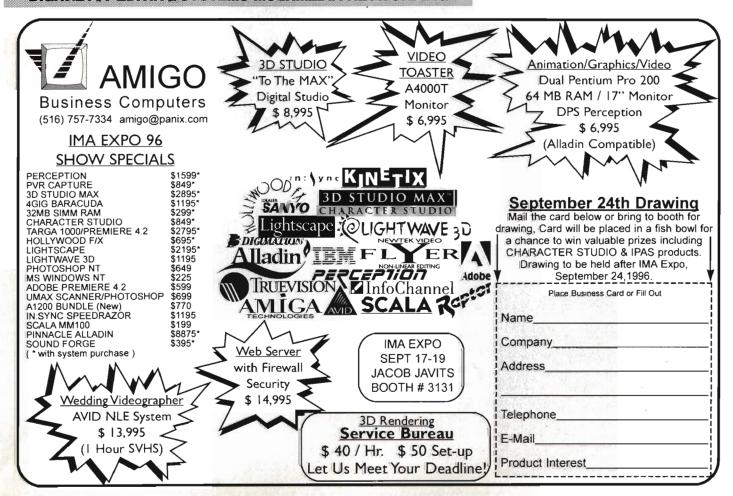
Our technicians have been in fhe business for years and can repair any Amiga/Toaster/Flyer the same day we receive it. We know which components work together and which don't, so upgrades are fast and trouble-free. Most items are in stock, available for exchange, including A4000/3000/2000 PCBs, all components, 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) 263-91 90 Fax: (770) 263-7852 Toll Free: (800) 962-4489 (Orders Only)





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/







1-800/897-3203

# EDIT-BAY-MUSIC

SPECIALIZING IN NON-LINEAR VIDEO/AUDIO EDITING SYSTEMS







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

# T.S. Computers

818/760-4445

11300 Hartland St. No. Hollywood, CA 91605

JALEJ JERVICE JUPPORT JYJTEMU JPECIALIJTJ

Ask us about Toaster rentals!





**AUTHORIZED AMILINK DEALER** 

We do it all!

# **licroTech**

olutions, 17W745 Butterfield Rd. Oakbrook Terrace, I1. 60181 Voice: 630-495-4069 FAX:630-495-4245



#### **Internet Access:**

info@mt-inc.com sales@mt-inc.com http://www.mt-inc.com/



NewTek Partners Plus Dealer

**Tapeless Editing** In Stock: Call for a demo

Professional Products Authorized Dealer



- Raptor Designer Workstations
- Lightwave 3D Software
- Perception Video Recorder
- Razor Pro / Speed Razor
- Video Toaster Systems
- Toaster Flyer non-linear editor
- JVC Cameras, Decks, Monitors
- Personal Animation Recorder
- AmiLink Editing Systems
- Amiga Technologies Systems
- Hard drives, tape systems, CD's
- Software and peripherals
- Sales, Service, Training, Support
- Animation Rendering Service
- Toaster/Flyer Suite
- Raptor Rendering System
- On-site and classroom training
- On-site service available
- NewTek "Top Ten" Dealer
- And lots, lots, more!





RAZO professional

**AMÍGA** 



# Chaneleon Music

Buy-Out Production Music & SFX Quarterly Updates • Free Demo Broadcast Length Edits Of Every Theme Custom Binder System With Indexing Acoustic And Electronic Instruments 16 Bit 44.1k True Stereo Sound Effects

LCD \$45.00 3 CD's \$99.00

\$189 00 9 CD's \$275,00

VISA

6 CD's

1.800.789.8779

413•789•1917

**ULTRA HIGH RESOLUTION** 

COLOR TRANSPARENCIES

from Your Amiga/Toaster Graphics

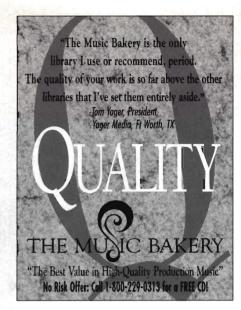
- 24-BIT IFF
- Standard IFF or HAM IFF
- Color Postscript

4000-Line Film Recorder . No Scanlines **Brillant Color** • No Curvature Distortion

Call or Write for Order Forms, Price Lists, and FREE Samples HAMMOND PHOTOGRAPHIC SERVICES

4301 N. 75th Street 101B Scottsdale, Arizona 85251

(602) 949-6066



# 35mm - 4000 LINE

1 Ultra Sharp Edge to Edge

THE IFF. IFF24, HAM, HAM8, DCTV, EPS

Tramestores, PrintRes& Postscript

- TODOS & MAC Files Imaged Also
- As Low as \$5.95 per File!
- එ 24 Hour BBS @ 715 856-5496



CALL: 715 856-5627

GRAPHIC IMPRESSIONS POB 254 Wausaukee, WI 54177

America's largest (320 pgs) and most complete supply and accessory cata-log in the entire industry contains thousands of exclusive and hard-tofind items for all levels of broadcast video, pro-audio, multimedia and audio visual production.

> Call or write now for your free copy!

MARKERTER VIDEO SUPPL

4 High St. . Saugerties, NY (USA) 12477 800-522-2025 • Fax 914-246-1757 Web: http://www.markertek.com/

Professional High & Standard Grades custom made blank 1/2 in. Video Cassettes, from T - 05 to T - 160. We also supply 8mm, Hi8, Umatic, Audio Cassettes w/Boxes. We also do low cost duplications & conversions in any format (NTSC  $\leftrightarrow$  PAL  $\leftrightarrow$  SECAM), degausing & repairing damaged cassettes.

**WE'LL BEAT ANYONE'S PRICE!!!** 



INTERNATIONAL INC. 715 PERALTA ST., SUITE 109 OAKLAND, CA 94607



## DEALER

**MARKETPLACE** 

CLASSIFIED

contact Dina Berrigan R USE 610-954-0553 R USE

# **VIDEO TOASTER &** YFR SYSTE

- 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-

Fax (610) 378-9606 Electronic Connection

635 Penn Ave. West Reading, PA 19611 Our 13th Year in Business!



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

#### RENDERING

#### **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

Dec Alpha Rendering Service GUARANTEED LOWEST PRICE Open 24hrs. Files can be sent to us via email, etc: Betacam SP, S-VHS, Hi-8. Call DIGITAL IMAGING 800-540-8892 or 909-947-0243

email: digital@hlc.com

DIGITAL F/X, INC.
LightWave3D 5.0 Render Farm!
Graphics & Animation Services!
Multimedia & Digital Audio
ALL FORMATS \*Including CD-ROM\*
Toll Free: 1-888-202-3285
Email: dfx@mail.coos.or.us

AJI Imaging
DEC ALPHA (NT & UNIX)
RENDERING & ANIMATION LIGHTWAVE,
3DSTUDIO, SOFTIMAGE, RENDERMAN
OUTPUT: BETA SP, SVHS, HI-8
Call 1-800-539-5412

\* STERLING VIDEO CO.\* QUALITY GRADE A TAPE DUPLICATION

T-15 ......\$1.00
T-30 ......\$1.15
T-60 .....\$1.35
T-90 .....\$1.85
OVER 1,000 CALL
(818) 702-9850 OR
1-800-705-9850

8033 REMMET AVENUE, CANOGA PARK, CA 91304

# Buy it!



Classifieds

#### FOR SALE

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

Answers; Toaster/Flyer 4.1 Tips & Tricks VHS tape \$29.95+ \$5.00 S/H toll free 800 315 0777 First Choice Productions

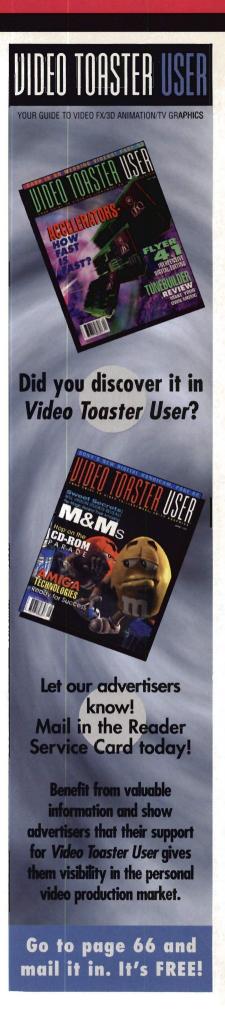
#### ANIMATION

Custom 3D Models & Animations LOW-COST HIGH-QUALITY Virtual Prototyping Services 814-757-4540

#### TRAINING TAPES

For use with your toaster or flyer or stand alone. D Paint 4, AD PRO 2.5 or 100 Backgrounds each at \$19.95 w/ \$5.00 S/H PROVideo One 1-800-575-2176





456 Lincoln Blvd, Santa Monica, CA 90402 TEL (310) 393-6650 FAX (310) 576-6383

For A Complete Listing Of The Products You Want Or To Order On-Line; Visit Us On The Web @

http://www.antigravity.com

800 ◆ 7 ◆ GRAV

# AMIGA A 4000T



A4000T SYSTEMS

25MHz-040/6MB/1GB/ AG Super Software Bundle

25MHz-040/6MB/1GB/4x CD-Rom & AG Super Software Bundle

25MHz-040/6MB/1GB/

SUPER SOFTWARE BUNDLE Photogenics 1,2aSE, Personal Paint 6.4,

When You Need Speed Don't Get a 586 or 6861 You Need To Get Alpha Speed!

REMDERSAURUS

RENDER SAUR - BS275A \$3695

!!! SPECIAL LIMITED TIME DEC BLOW OUT !!!

DEC Is Offering Us Unbelievable Prices On Alphas! Act Fast The Quantities & Time Are Limited!

RENDERS AUR — BS300A DEC Special \$6995

REMDERS AUR — BS400A DEC Special \$9995
Base System: 400MHz Alpha AXP 21164A CPU / IMB of Cache RENDERSAUR - BS433A DECSpecial \$10395

Base System: 433MHz Alpha AXP 21164A CPU / IMB of Cache REMDERSAUR — BS 466A DEC Special \$10795
Base System: 466MHz Alpha AXP 21164A CPU / IMB of Cache

REMDERS AUR - BS 500A DEC Special \$15995

Base System: 500MHz Alpha AXP 21164A CPU / IMB of Cache

Base Systems IGB HD, 2X CD-ROM, 2MB Display, Windows-NT, Keyboard, & Mouse.



The FASTEST GROWING video editing RAID 0&1 controller SUSTAINS data rates in excess of 13 MB/s SCSI FAST & WIDE

#### WindJammer \$Call BENEFITS:

- Frees workstation resources for other
- Increases workstation throughput
- Single host adapter can now support multiple devices Requires fewer cables increase system MTBF



Perception (Capture NTSC PAL S Call
Personal Animation Recorder
Amiga/PC NTSC \$ 1595
Amiga/PC PAL \$ Call
TBC IV \$ 895
VIDEO DRIVES \$ Call



#### INFONEXUS

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



The Only Choice For A Physics Simulation Package For Lightwave3D!



**IMPACT!** 

Windows Intel Win-NT ALPHA Win-NT MIPS

A particle systems program for the serious animator. With a few simple mouse clicks, create stunning effects such as explosions, smoke, fire, sparks,

- STORM Plugs-in to LightWave3D and 3D StudioMAX for greatest

- considerce.

  Milrow seal-time interactive previewing of particle effects while changing controller parameters.

  Multiput pountain types allows you to emit particles from spherical or rectangular volumes with varying birth rates, initial volcities, & dispersion.

  Particles can die based on age, collision, or speed.

  Wind can affect particles and a chaotic utrubulence can be specified that changes over time and distance.

  Particles can be set to change colors and transparancy automatically based on age, speed, acceleration, collision, and death.

- automatically based on age, speed, acceleration, collisi death.

  Force Fields can be created to attract or repel specified particles.



**Partical Storm** Windows Intel Win-NT ALPHA

PARTICLE



SGI, Alpha-NT

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



**VERY COOL!** 



## **FLYer** Factory!



The Best Non-Linear Video Editing System In The World.
No Motion J-Peg Artifacts.
Easy To Use Storyboard Interface.
Real-Time Effects.

Built In CG. Plus.... Lightwave3D is a standard

## FLYer System-G \* \$13,785

AS LOW AS

FLYer/Toaster/TBC IV/ Hanger 9-Bay/ Two 4GB Flyer HD's and 2X CDRom/ASIM



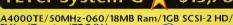
LOOK ... FLYer System-G Saves You \$1000 Over FLYer System-F



## ANTI GRAVITY HANGER™

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

Hanger Model	# BAYS	# Watts	# Fans	1	FLYer Ports	Pass Through	Total Price
AGH-7		250	3	7	3	Yes	\$345
AGH-9	9	300	3	9	3	Yes	\$395



Because Of The Eagle 4000TE!



# FLYer System-F \*\* \$14,795

A4000T/50MHz-060/18MB Ram/1GB SCSI-2 HD/ FLYer/Toaster/TBC IV/ S \$360 A MONTH Hanger 9-Bay/ Two 4GB Flyer HD's and 2X CDRom/ASIM

Box is average credit lease for 60 months FOR INFORMATION CIRCLE 163

# LIGHTWAVE 3D

Upgrade From 4.0 \$295 !!!AS LOW AS!!!\*

TV Paint 3.6 PC
TV Paint Alpha
TV Paint SGI

Windows Intel \$1195 \$1495 Win-NT Alpha AMICA \$1195

\$2495 SGI

\*Call for Details

Amiga

#### Toaster Flyer Lightwave Plug-Ins \$145 \$165 Control Tower

Flight Gear Impact Impact Flight VTR Sparks Flite POD \$565 SPOT Sparks Navigator Visual FX Vol I Sparks WaveFilter Vol2 \$125 WaveFilter WaveFilter Fiber Factory **Decision Maker** \$195 Wipe Studio Fiber Factory Other Software Fiber Factory Motion Master \$595 \$175 \$225 Elan DF5/T-Net Hollywood FX \$175 ImageFX 2.6 \$225 TV Paint 3.6 Amiga \$395

\$295 \$545 Alpha PC \$425 Amiga Alpha PC \$295 \$225 \$call \$call Amiga Alpha PC \$145 Amiga \$125 PC Alpha Vol I Vol 2 \$195 \$145 \$145 Motion Master \$215

MacroForm WaveMaker Amiga Scene Machine \$225 Amiga PC LightSocket WaveNet



Integrated Amiga & PC with the new Siamese System.

Single Monitor automatically switches to display PC as if Amiga Screen. Single Keyboard and Mouse

\*Operation across all platforms. Built in Serial networking with all PC drives mounted on Amiga.

\*Siamese uses high speed SCSI network with suitable SCSI interfaces. Read and Write on any PC

Drive at high speed, including any Networked Drive.

\* Text Clipboard, Cut and Paste between Amiga and PC applications

\* Full Arexx support built in. Share Printers, all Amiga output sent to PC printer.

\* Use PC runtime versions of 3D programs on a Pentium and watch 'em Fly.

\* Amiga MCI controller from AmigaDos or Arexx, (Media Control Interface)

\* ie, Digital Mpeg Video, Sound, Midi etc.





Monument SCall Designer

Everything Is Relative - Even Professional Titles





SNAP MAPS: Fields & Foliage

Building Materials & Fabrics

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

Pentitrator



Fields & Foliage Building Materials & Fabrics \$129.95

F&F plus BM&F

\$240



Royalty Free Stock Footage On CD-Rom

SnapCLIPS Shot On 35Mm Film And Transfered To D2. SnapCLIPS Provides You With High Quality Footage For Nor Linear Editing Or 3D Animation Needs And 18 Availib In Video Toaster Flyer And 24-Bit Image Formats.

SnapCLIPS: Airanautics \$495

# ntitrato

into Your Amiga with the Pentitrator System Card From Anti Gravity Labs

Expandor Bus Card ™ \$245

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



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

Specifications

132MB/sec PCI-Bus CPU Pentium 75-150MHz PC104 EPROM RAM-Unto 128MB Cache: Int. PORTS: IDE & Floppy

High Speed RS-232, Enhanced Parallel Slot: Fits in the PCI and ISA bus slot\*\*

Ext. PORTS: COM1, COM2, PS/2 Mouse,

Pentitrator-XX \$1245 Pentitrator-75 Pentitrator-90 \$1395 Pentitrator-100 \$1495 Pentitrator-120 \$ 1595 Pentitrator-133 \$ 1795 \$ 1895

Pentitrator-150
Pentitrator-75Sx with: Expandor Bus Card,

AGL-Tower Case \*(Soon for A3000.4000T) \*\*(Requires Expandor Bus Card and AGL Tower Case)



your Amiga 4000 or Video for the Pentitrator System Card

With Power Supply
With Expandor Bus \$495 \$740

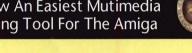


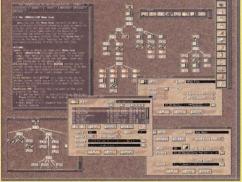


SNAP ADO gives you control over 100 different objects which can be a combination of images, text, and animations. Because Snap ADO takes a parallel approach to this, up to 100 objects can be moving around on screen at the same time! Such an example is unlikely to be put into practice but it gives you an idea of the power behind Snap ADO. Snap ADO does three types of effects: 3D Rotation and Scaling, Slides (Simple Wipes), and Wind Effects, Currently there are over 40 predefined wind effects with names like Vortex, Flag, Wave, Sphere, Barricade, and Hurricane but you can customise your own variations.

Flying Throughs Cloud

# The New An Easiest Mutimedia Authoring Tool For The Amiga





#### Features:

- ◆ Free Runtime player
- ♦ Requires AGA chipset
  ♦ Supports MPEG writing and playing
  ♦ Easy to use interface with selectible tool bars,
- intéractive buttons
- ♦ Online Amigaguide help system
  ♦ Many different types of wipes including Super Impose
  ♦ Easy to learn and use scripting language

- ♦ Icon based interface
   ♦ Comes on CD-ROM with many example scripts, textures, animations etc.
- ◆ Lots of easy to follow tutorials ◆ Supports Amiga OS drag and drop features

# Professional Version Ver-1 Ver2 AWorks p create, p and add \$95

M.M.Experience and M.M.Experience PRO are an Amiga based authoring system developed solely to produce Interactive, information based projects for all Amiga platforms including CD32 and Amiga CD ROM drives. NO programming is required to produce an application with M.M.E. Our desk top publishing style environment allows applications to be authored quicker than ever before. No programming and quick authoring means that virtually all of your resources can be dedicated to the all important task of multi media design and production.

\$95 M.M.Experience

Affordable, yet incredibly powerful multimedia authoring system for the masses, suitable for use on any Amiga computer.

M.M.Experience Pro \$595

Affordable system aimed at the professional and industrial (POS/POI/Training) markets and sporting all of the features of M.M.E plus many more making it suitable for such professional applications as CD title production, Set top boxes and Interactive TV, POI and POS kiosks and much more.

M.M.Experience with Asim's Master-ISO \$275 M.M.Experience Pro with Asim's Master-ISO \$775

garanouernos ? men p Syndonsias COTV CARILLEN

Pandora CD produced M.M.Experience Included With M.M.Experience Pro

INSIGHT: TECHNOLOGY

BROWSE

moue | **INSIGHT:Dinosaurs!** produced M.M.Experience Included With M.M.Experience Pro

DINOSAURS

Valvesone Cal

FOR INFORMATION CIRCLE 163

Terms and Conditions: Call for complete shipping rates, warranties, and other policies that apply. Quantities are limited and prices are subject to change without notice. Anti Gravity Products (ACP) accepts COD orders payable by cashier's check only, Payment must accompany all purchase orders. We are able to offer quantity discounts to dealers and system builders. Orders may be plad by Visa/Mastercard. All sales are final. No must have a Return Material Authorization number (RMA), be in original packaging, and condition. No guarantees are implied as to product performance with your system or as to manufacturers calms and specifications. A 20% restocking fee applies to all exchanges of unlike products or any orders that are cancelled number. All exchanges are at our option. This advertisement, its contents, and its style are the Copyright of ACP and cannot be duplicated without express written permission. All trademarks are the property of their respective companies.

For A Complete Listing Of The Products You Want Or To Order On-Line; Visit Us On The Web @ http://www.antigravity.com

1 **♦ 800 • 7 • GRAVIT** 



800 ♦ 7 ♦ GRAV

456 Lincoln Blvd, Santa Monica, CA 90402 TEL (310) 393-6650 FAX (310) 576-6383

# Navigator

For The Video Toaster Flyer Editor

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

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

#### **UNIVERSAL 3DCD** PLAID COMPANION DIGITAL MUSEUM

8125

\$ 30

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

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

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

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



Flying-Logo Animation Scene

Builder For Lightwave3D.

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





CATE

# /実的系統の合か与

Pyromania@ is a royalty free collection of Fire and Explosion effects.

Originally photographed on 35mm motion picture film. 5canned at 2048 x 1536 and sampled to 640 x 480.

Amiga/PC version has .TGA, .AVI and .FLI files. Mac version has .PICT files and Quicktime movies.

Examples: Small Explosion Big Explosion Shockwave explosion

Zero G explosions 57 frames 39 frames 36 frames 23 frames FireWipe #1 FireWipe #2

FireWipe #3

79 frames 1S8 frames 42 frames 74 frames 40 frames



Scene Machine

ImageFX

/er 2.6

\$225

#### **CONTROL TOWER \$145** Soar To New Heights With The Flyer

With the popularity of NewTek's Toaster Flyer, there are now squadrons of users out there firing up their Toasters and Flying off to exciting new places every day. Control Tower is edicated to enabling the Flyer to take you farther and in less time by providing a simple, convenient, time-saving interface with lots of options. As the name implies, with Control Tower you completely Control the "flight path" with Flyer Option such as: Is the name implies, with Control Tower you completely
Compositing Clips (Including Blue Screen Effects)
Picture in Picture
Record CG Overlays directly to Clips
Fig. Broken Pojets
Fig. Broken Fig.



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



#### SURFACE PRO CD \$85 FOR LIGHTWAVE 3D

FOR LIGHTWAYE 3D

Finally, a collection of user a collection control of the Light Wave professional. Surface Pro offers a wide variety of seamless image-based Light Wave surfaces. Surface Pro gives you over 60 newsurfaces that are instantly over 60 newsurfaces that are instantly control of the collection was a collection with the collection of the coll





VOIZ \$125 ea.

You Don't Have To Go All The Way To Hollywood Anymore To Get Grate Fx. Vol-1 by Leo Martin Vol-2 by Mark Thompson are State-Of-The-Art Fx.



# ImageFX ver2.6 The Complete Image Processing Solution!

Incredible Display Abilities: Amiga/AGA modes, EGS Spectrum, Retina,

Picasso, Piccolo, Firecracker24, DCTV, ... Powerful Scanning: Epson, Sharp JX-100, IV-24, VLab, &

Epson, Sharp JA-100, IV-24, VLab, & Framegrabber...
Full Color Painting:
Drawing Tools (Ellipse, Rectangle, Bezier Curve, Polygon,...), Soft Edge & Anti-Aliasing, Magic Wand, Cool Drawing Modes (Smudge, Colorize, Disperse, Sharpen), Paint Tools (Airbrush, Charcoals, Watercolors, Crayons), Drawing Styles (Rub Through & Alpha Channels), Cut Out Brushes, Magnification & Zoom...
Complete image Processing:

Complete image Processing: Color Balancing, Correction, And Separation; Relief Maps & Motion Blurs; Solarize & Chrome; Blur, Sharpen & Unsharp Masks; Filters... **Fantastic Special Effects:** 

Create Lightning Bolts, Raytrace Image Onto Spheres, Ripples & Waves, Textures, Turn Images Into Paintings, Water/Glass Distortions,
Morphing, Warps, Stars & Supernovas, Crystallize,
Rotate In 2 Or 3 Dimensions...

Complete Image Conversion:
Amiga, Mac (MacPaint, PICT, TIFF), DOS(Gif, PCX, PIC, JPeg, Targa...), SGI (SGI RGB, Softimage, Wavefront), Animations( ANIM, ANIM7, ANIM8, MPEG, FL1...), Others (X11, Abekas, PAR, Sun...)..



New Flyer & V-Lab Motion

EDL generator and VTR controller Decision Maker lakes the drudgery out of moving selected chanks of video to the hardfills. You control your video deck directly from your simple first to the EDL. When the third the control was to the the control of the control



FOR INFORMATION CIRCLE 163

LOW PRICE GUARAN



456 Lincoln Blvd, Santa Monica, CA 90402 TEL (310) 393-6650 FAX (310) 576-6383

# **LAST WORD**

# 10...9...1...Blast Off

## Jumping the Gun Leads to a Shot in the Foot



by Mojo



hen I was eleven, I made a discovery that many young boys my age inevitably made: dad's movie camera. I became a geeky fan-boy very early in life (*Song of the South* was probably my first true love) and the idea of making my own movie was quite appealing. Whenever the family was on vacation, I pestered my pop to let me take control of the Super-8 so I could forever

preserve my brother kicking over my sister's sand castle.

I guess dad saw the writing on the wall, and for my 13th birthday he got me my own (much more modern) movie camera and projector. A veritable studio! From that point on, all my spare time was devoted to making movies. I learned stop motion; I scratched lasers onto the film; I subscribed to *Cimemagic* (the *Video Toaster User* of the Super-8 generation); all building to an inevitable conclusion: *my very own space opera*.

The idea was to create my own *Star Wars* movie using stop-motion animation and my Kenner action figures. I built a cardboard set of Cloud City and spent the next week taping feet to the ground and getting off a few shots. I couldn't find the patience to finish the roll, so I ran it out for developing, eager to see the results of my efforts. I was *convinced* that this movie was going to be as good as anything I saw in the theaters.

I was wrong.

I'm sure none of you are surprised. I mean, how could a 13-year-old kid with a five dollar budget and a Super-8 camera expect to rival a Hollywood epic? I was young, inexperienced and had no idea how much I was biting off. Today, however, I am an educated adult and clearly would not make the mistake of trying to work outside my means.

No one would, right?

Flash forward about eight years or so. It's the end of my first year of film school and it's time for the end of year show, where all the cinema students (from freshman to seniors) showcase their finished projects for the entire school. I wasn't expecting much from the new kids, but certainly the upperclassmen would have some Oscar-worthy material!

I was wrong.

With one, maybe two exceptions, most of the movies were disappointing. Despite the obvious technical flaws, bad acting and general lack of filmmaking skill, the problem that seemed most obvious (and preventable) was that of the Cardboard Cloud City phenomenon—people were just biting off more than they could chew. Many students had tried to make big budget action epics, clearly because it was the kind of film that inspired them to make movies in the first place.

Unfortunately, none of them had the time, budget or resources to make a *good* action movie, so many of them ended up unintentionally funny, or just plain bad.

And what a shame! Not only were those students greatly disheartened, but to think of the money and time they *did* spend (six months and about \$5,000) on a project that was doomed from the start! Did they not realize there was no way to pull it off? It was a case of enthusiasm overriding practicality. Instead of worrying about how to do impossibly complicated special effects shots, they should have been polishing a great (and less expensive) script. Instead of *Star Wars*, they should have been thinking *Twilight Zone*. I wonder how many of them had their own Super-8 cameras when they were 13?

Now it's the present day. I'm watching a demo reel that is crawling by at five frames per second because someone who can't afford a PAR is pushing DCTV a little too far; another tape is filled with flickering shadow map errors because they didn't have enough RAM; and I'm sure *someone* out there is trying to outdo *Star Wars* with only a Toaster and a few prop water guns.

Lord knows I understand this enthusiasm. Just as I tried to create a space epic with cardboard and tape, many of you may be trying to mimic *Babylon 5* with a 68030 and 8 MBs RAM. Unfortunately, it just can't be done! You must acknowledge your limits and work within them. If all you have is DCTV and you know full screen motion won't play, then don't do it! Create an animation about a worm or a DMV clerk where lethargic motion is pivotal to the story. If you're itchy with the video camera and love action movies, tell a story filled with *suspenseful* action as opposed to literal (and expensive) action. A tale about the desperate *search* for a ticking bomb instead of one about blowing things up might actually be more rewarding.

Learning to make the most with what you have is an important skill that many people ignore, always aiming a little too high. Use the resources around you and work your way up, never forgetting that, with a little persistence, you will get to your epic in due course

Although I have always encouraged people to set their sights for the stars, take it as a simple reminder that every good liftoff begins with both feet planted firmly on the ground!

#### EDITORIAL EVALUATION

Circle number on Reader Service Card I found this article:

Very Useful Circle 060

Useful **Circle 061**  Not Useful Circle 062



# THE FASTEST JUST GOT FASTER!

ALPHA ™ Once again, Carrera raises the price performance

bar! Carrera is the leading supplier of Alpha based solutions for computer animation and rendering. Starting at only \$5,995 you too can own the same system that Amblin Imaging used to win the prestigious

**EMMY AWARD** for STAR TREK...but now with twice the power! (Finally, more power for Scotty!) The Cobra EV5 harnesses the power of the 21164 Alpha micro-

processor, with its four instruction,

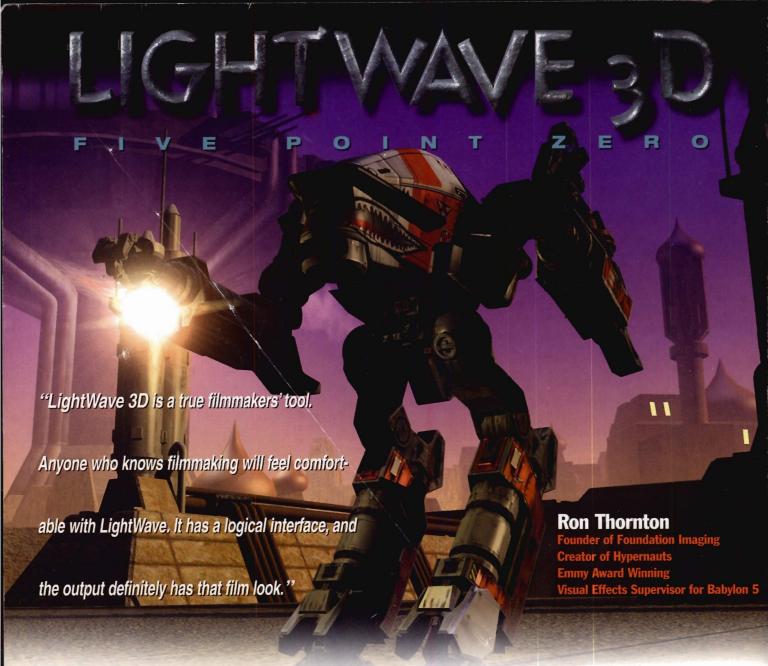
super scalar design, and two megs of 10ns cache. In addition, you get 64

> Megs of 256-bit RAM with 1Gbyte/sec. of rendering bandwith, 1Gig of Fast SCSI-2 disk, 6 speed SCSI-2 CD-ROM, Windows NT, and an OpenGL accelerator with 4Megs of RAM. Starting with a SPECfp92 of 562, the Cobra EV5 shreds through complex rendering applications. The Cobra and Cobra EV5 continue to be the favorite systems for Lightwave users. Ask us about our 5.0 Bundle! More power, more value, and more flexibility, all from Carrera.





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



hy 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 sturning 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



## 1-800-TOASTER

Windows 95, Windows NT, Silcon Graphics, Inc., DEC Alpha, MIPS, Amiga.

Outside the U.S.A. Call 1-913-228-8000 • FAX 1-913-228-8099

WEB PAGE HTTP://WWW.NEWTEK.COM • ANONYMOUS FTP SITE FTP.NEWTEK.COM

FOR INFORMATION CIRCLE 138

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.