

# VIDEO TOASTER USER

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

JANUARY 1997

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**TOASTER  
TROUBLESHOOTING  
PART TWO**

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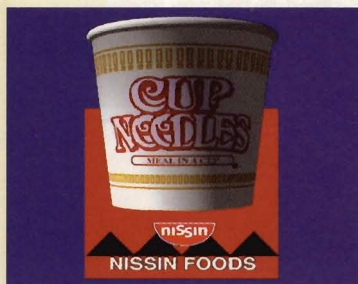
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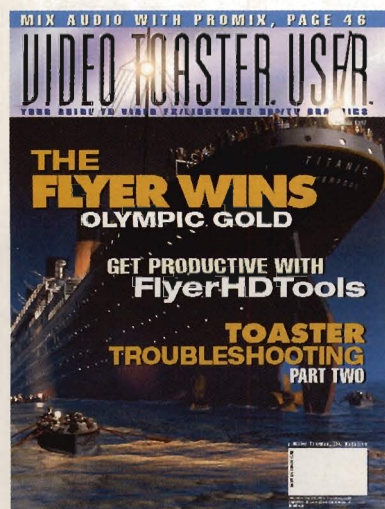


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Cover Design by Brian D. Cowen, FryeAllen, Incorporated  
Image courtesy of Digital Muse and Kontsberg/Sanitsky Co.

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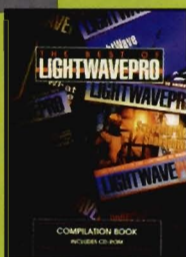
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# VIDEO TOASTER USER

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

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

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

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

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

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FOR INFORMATION CIRCLE 102



# TOASTER TALK

## All Good Things End?

Farewell to a Great Magazine

by Joe Tracy



**M**

any times growing up I heard the saying, "All good things must come to an end." I never believed that statement. All good things?

Apparently so, including *Video Toaster User* magazine. In late October, Miller Freeman issued a press release (see News & Notes) stating that *Video Toaster User* and *LIGHTWAVEPRO* were being replaced by bi-annual reports for Video Toaster, Video Toaster Flyer, and LightWave 3D users that will appear in *DV* and *3D Design* magazines. This was a business decision that Miller Freeman felt they had to make based on their figures and the bottom line. While I do not personally agree with this decision, I do fully support any efforts that Miller Freeman and other companies make to

inform the public as to the awesome power of NewTek's products.

Soon Miller Freeman will be issuing a letter to VTU subscribers giving you the option of carrying your subscription over to *DV* magazine, which will carry the bi-annual reports, or get a refund on unpublished issues left in your subscription.

For the past six years, *Video Toaster User* has been a beacon of information, news, tips, reviews, tutorials, reports, and announcements to tens of thousands of NewTek product users around the world. It has helped readers continue to achieve their goals while trac-

ing the impact NewTek products continue to achieve worldwide. It is something that never gets thrown away, but is referred to often. I remember many times in years past working on a project and coming to a stumbling point. "There was something on this in VTU," I would say to myself as I began sifting through dozens of back issues. Not only would my problem soon be solved, but I'd make new discoveries along the way. I know you can relate because you've done the same thing. VTU has always been our manual of excellence and the saving force to an important project or animation.

### Farewell but not Goodbye

While good things may die, life shows us that better

things sometimes spring forth. Take the caterpillar, for instance. Once the caterpillar goes into his cocoon, he appears to exist no more. Yet after awhile he springs forth as a beautiful butterfly. Not only is he much more colorful, but he can now fly. So what does this mean for VTU? Only time will tell. I like to see the magazine as in a cocoon versus in a grave.

But let's shift focus and take a look at NewTek from outside of the cocoon. What can we expect in 1997 from them? Toaster and Flyer owners can expect a major upgrade (5.0) sometime in the third quarter. LightWave 3D owners can be assured that they are being given top priority with NewTek's continued expansion and dedication to professional LightWave upgrades that meet the growing demands of the industry. But that's not all. Expect a few major surprises along the way too. I predict that 1997 will prove to be one of NewTek's strongest and most impactful years ever. And as long as I can predict better than the tabloids, we should all be in good shape!

### Some Simple—But Crucial—Advice

So what parting tip can I give that will benefit NewTek's entire market? What advice can I suggest that will be as equal in importance to LightWave users as it is to Toaster and Flyer owners? The answer is: *You are mastering the visual, don't neglect the audio.* It's a simple tip, but it is one that is making the difference between an average project and an "everyone was blown away" masterpiece. Audio is to your project what butter is to toast. It gives your project the flavor. You are a visual artist. Now you must also become an audio artist to be complete. Luke did not become a Jedi Knight in the *Star Wars* Trilogy until his training was finished. Neither will we become masters of our visions until we conquer all of our weaknesses. May we never let a project out of our hands that we are not 110% satisfied with.

On behalf of the entire VTU staff, I would like to extend my deepest appreciation for your support over the past six years. VTU has been successful because of you and the valuable feedback you have provided throughout the years. So do I now believe that all great things do come to an end? No, I don't. I believe that sometimes good things go into cocoons and come out in ways you might not recognize at first, but in ways that give you great satisfaction. So go now and make all of your dreams a reality for tomorrow is what you make of today.

VTU

Joe Tracy is editor in chief of *Video Toaster User* and encourages you to stay in touch with him through his e-mail via [jtracy@main.rosenet.net](mailto:jtracy@main.rosenet.net) or personal direct line at (541) 673-4342.



## VTU Expo '96

Hundreds of people flocked to the 1996 *Video Toaster User Expo* held from November 5 - 8 at the Universal City Hilton. The event was especially profitable for LightWave 3D users as most of the focus of the Expo was on LightWave 3D. Dozens of third-party developers were on-site giving great discounts on software and hardware. NewTek gave demonstrations of LightWave 3D and the Flyer at their booth and included many tips and tricks. All of NewTek's demonstrations attracted strong attention and the area filled to standing room only.

Many of the speeches at the Expo dealt with video production on the Web, enabled by Java, and NewTek's strong outside support to make it happen. While there weren't any new or revolutionary products on display, NewTek did allege that:

- They will continue to support the Amiga Flyer with an upcoming major upgrade (which will include HQ6, more audio capabilities, bug fixes, better CG and improvements overall).

- They have Toaster plans (which are still in development) for the PC and other platforms.

- Major LightWave 3D developing is continuing.

Many of the new third-party products demonstrated at the Expo appear in this month's New Product section.

## Miller Freeman Replaces Video Toaster User and LIGHTWAVEPRO

Miller Freeman, Inc. has announced that *Video Toaster User* and *LIGHTWAVEPRO* will now be superseded by a new publication insert for Toaster, Flyer, and LightWave 3D users that will appear twice a year in *DV* and *3D Design* magazines.

The last issue of *LIGHTWAVEPRO* was published in October, 1996. The January, 1997, issue of *VTU* will be the final one. Subscribers to *VTU* will be sent a letter allowing them to carry their subscription over to *DV* magazine or request a refund for issues left in their subscription. *LIGHTWAVEPRO* subscribers will have the same offer except their magazine choice will be *3D Design*.

## Foundation Imaging No Longer Does Babylon 5

On November 13, 1996, Netter Digital Entertainment, Inc. announced the launching of Netter Digital Technologies. Netter Digital Entertainment, which co-produces the TV show *Babylon 5*, now in season four, has taken over the animation and visual effects of the show, keeping the majority of the series production in-house.

In a press release, Douglas Netter, CEO and Netter Digital Chairman, stated "By bringing together all of the equipment and concepts under one roof, we are making it very easy for a small management team to produce every aspect of the series, which will give us a shorter time to market with greater quality control."

## Diamond Multimedia's New OpenGL Card

Diamond Multimedia Systems, Inc. has announced that in December, 1996, they will release the FireGL 1000 accelerator card. Priced at \$499, the card is described as a low-cost professional 3-D graphics solution for the PC, operating best under Microsoft Windows NT 4.0 on a Pentium Pro. The card supports OpenGL and is stated to work in conjunction with a number of software programs, including NewTek's LightWave 3D.

The FireGL 1000 will provide accelerated 3D for animation, authoring and CAD applications under Windows NT and Windows 95. It is available in 4 MB or 8 MB SGRAM memory configurations.

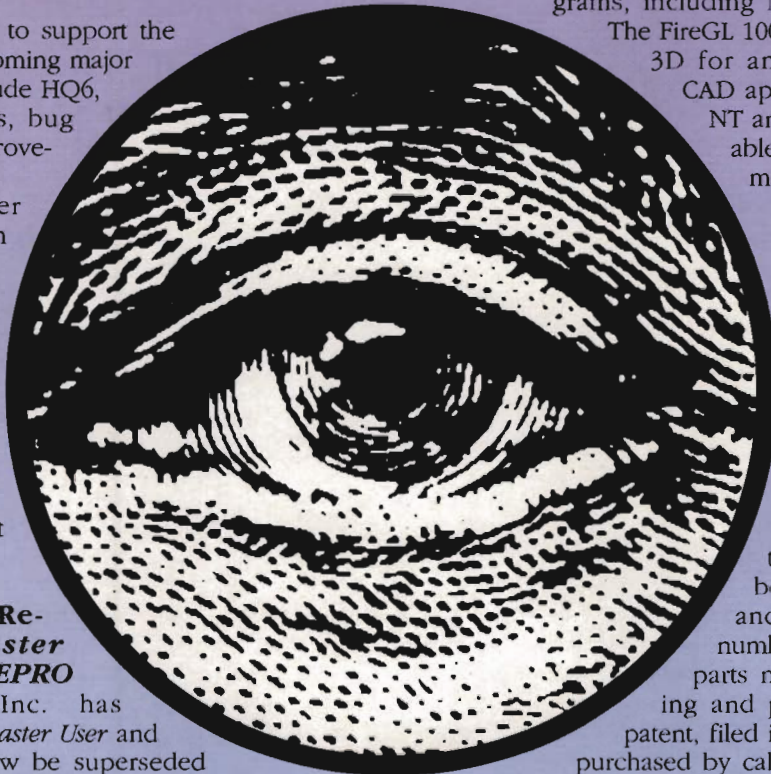
## Zenith Electronics files VCR Apparatus Patent

Zenith Electronics Corporation has filed a patent for a "mechanical power transmission for a simplified video cassette recorder apparatus." The simplified motor apparatus will apparently yield benefits for cost, reliability and space by reducing the number of motors and moving parts necessary for VCR recording and playback. A copy of the patent, filed in early November, can be purchased by calling MicroPatent at 1-800-984-9800. The patent number is 5572381.

## Amiga Situation Not Resolved

At press time, VISCORP had not wrapped up the deal to purchase Amiga technology. VISCORP publicly posted that "the trustee for the bankruptcy of ESCOM AG and AMIGA Technologies GmbH, Bernhard Hembach," had "...extended the closing date for VISCORP's purchase of AMIGA for 30 days with the support of ESCOM creditors." In the same release they stated that the closing would not extend past that date (September 19, 1996). No news has been released as to what has happened in the negotiations.

ESCOM AG and Visual Information Service Corp had announced early last summer that they had signed a final agreement about the acquisition of Amiga Technologies GmbH by VISCORP. The purchase price was approximately \$40 million.





# NEW PRODUCTS

Compiled by  
Rosemary  
Picado-Corral

## Flying FX

### RenderFX from ProWave

Product: RenderFX

Description: Flyer Effects program

Price: \$129.95

ProWave

7950 Highway 72 West, Unit G102

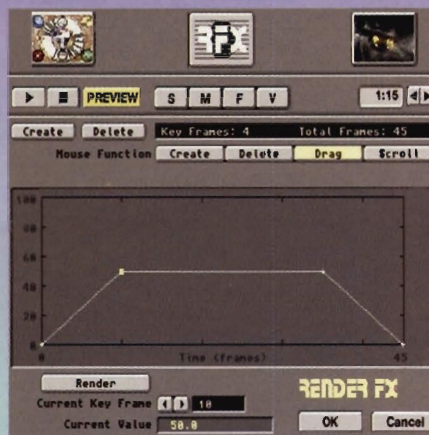
Madison, AL 35758

Phone: (205) 830-2767

Orders: (800) 930-2646

Render FX is the newest tool in a suite of add-ons for the Flyer. Working closely with members of NewTek's Traz Team, ProWave, Inc. has created a product enabling you to "render" any toaster effect out as a new Flyer clip. This means zero-preload time for animated effects and wipes. Also you can key CGs directly over these new transitions. Current processor speeds are about one minute per second of transition.

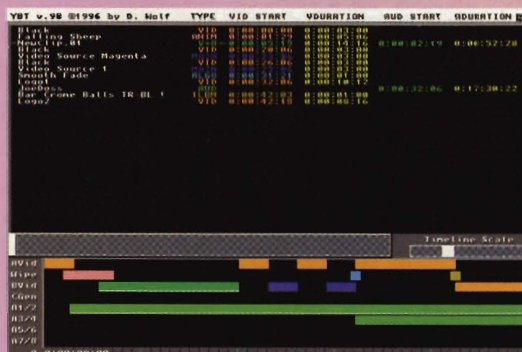
Exciting new flexibility comes in the form of an envelope requester that



allows you to create and render effect envelopes. This means you can now do a 50% split screen, hold it, and return to the original clip. You can do the same for dissolves or any other wipe. Layering video has never been easier.

ProWave has joined forces on RenderFX with Oz-Ware, Dimension Technologies, and Visual Inspirations to add completely new functionality to Co-Pilot, Wipe Studio, and Control Tower.

**FOR INFORMATION CIRCLE 1**



### Timeline Tool

Product: YBT

Description: Timeline display for the Flyer and Toaster 4.1.

Price: \$99.95 (\$149.95 includes VideoGem CD-ROM, see next entry)

MegameM

Available from:

Select Solutions

(800) 322-1261

or Safe Harbor

(800) 544-6599

WWW: megagem.com

YBT from MegameM is a

fast time-line viewing tool that allows instant visual reference to relate any listed crouton to its timeline graphic bar. It also allows users to instantly shift the timeline to any crouton you select in the Flyer project and direct access integration into the Flyer/Toaster 4.1 editor's programs pop-up menu system.

YBT separates time bar lines for A Video, B Video, FX, Graphics and four Audios. Color coding denotes which video clips have audio, FX types and clips with split audio. It

displays up to 32 project entries with time codes.

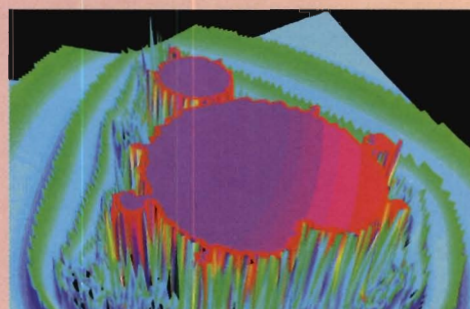
YBT analyzes your project at about 50 croutons per second and any changes can be reanalyzed with a keyboard click, a menu selection or even via AREXX. YBT is displayed on a 16-color high resolution Amiga screen with enough pixel resolution to show up to 10 minutes of project and still view events that only last about one second.

**FOR INFORMATION CIRCLE 2**

### Toaster and LightWave Gems

Product: VideoGems CD-ROM

Description: Compatible with Toaster 4.1 and standalone 4.x releases.



Price: \$99.95

MegameM

Available from:

Select Solutions

(800) 322-1261

or Safe Harbor

(800) 544-6599

WWW: megagem.com

VideoGems is a collection for Toaster users who use Character Generator, FrameStores, Switcher FX and LightWave 3D.

For Character Generator, VideoGems includes 12 new color fonts created with LightWave and texture mapped with FractalPro images.

For the Toaster Switcher, there is a package of over 60 new effects including variations on digital wipes and color-cycle wipes. For the Flyer, there are sample projects that display the new effects and corresponding FractalPro FrameStores.

For LightWave 3D, VideoGems includes a collection of real-world digital elevation map landscape objects, such as the Grand Canyon and the surface of Mars.

**FOR INFORMATION CIRCLE 3**

### The Power of Flight

Product: AV8R

Description: Power-Edit controller with Flyer Project Timeline

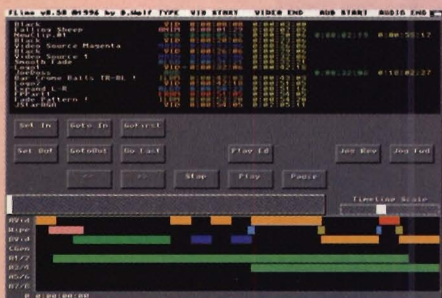
Price: \$499.95 including the Wired Remote Edit Controller



\$249.95 for the software-only version.

Available from  
Select Solutions  
(800) 322-1261  
or Safe Harbor  
(800) 544-6599  
WWW: megagem.com

AV8R is an alternative user interface for the Video Toaster Flyer,



including features such as a VCR-like project clip edit-controller panel GUI with play stop and pause buttons. It also features fast/slow forward and reverse buttons, jog, set in-and out-point buttons, and jump to clip start and end buttons. AV8R also includes a hardware edit controller with a jog wheel that plugs right into your Amiga's serial port.

The software-only version includes the same features, including a visual text list for up to 16 croutons on your project, a slider, and a timeline display. AV8R also incorporates many of Megagem's advances with the FlyerCOM ARexx command engine for the Flyer and all of the YBT technology built in.

**FOR INFORMATION CIRCLE 4**

### More Particles to Choose From

Product: ParticleType

Price: \$120

Description: LightWave 3D plug-in for Intel and Alpha

Metro Grafx

P.O. Box 568

Florissant, CO 80816-0568

Phone/Fax: (719) 748-3972

ParticleType is a particle replacement plug-in for LightWave 3D, replacing built-in dot shaped particles with four new shapes and an arbitrary image map with an alpha channel.

New primitive shapes include cross, star, circle and sand grain. These primitive shapes can be filled or unfilled and can be made to rotate. Image map particles are soft

composited using an alpha channel, and all types can scale with distances.

ParticleType also works with particle blur and motion blur and includes a particle shader that allows for ambient, diffuse and specular lighting effects on particles.

**FOR INFORMATION CIRCLE 5**

### Your Private Tutor

Product: TutorVision 3-D CD

Description: An interactive, multimedia CD-ROM for LightWave users.

Price: \$69.95 per volume

Event Horizon Studios

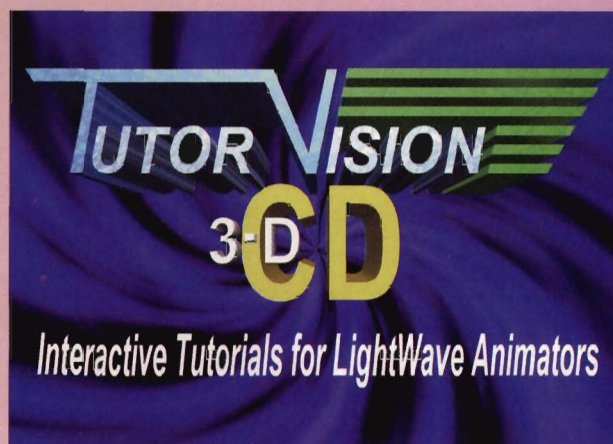
P. O. Box 310

New Baltimore, NY 12124

Phone: (518) 756-6850

WWW: <http://www.tv3d.com>

or [www.webcom.com/dwarner](http://www.webcom.com/dwarner)



and Images, and thousands of messages from the internet's LightWave Mailing List.

With more than four hours worth of video and audio clips, each volume of TutorVision 3-D CD contains more material than any video, and the easy to use interface allows you to quickly check out the content of each CD-Rom in any order you want.

**FOR INFORMATION CIRCLE 6**

### Free Report

Product: Information Report

Description: A free report for Video Toaster, Flyer, and LightWave 3D owners.

Price: Free

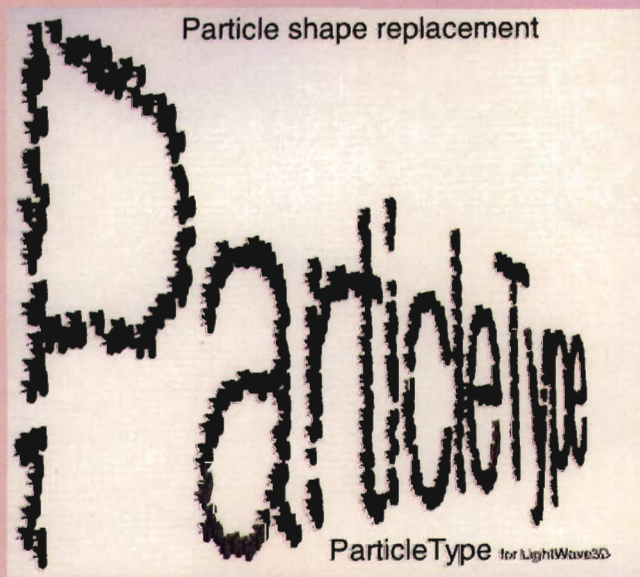
Studio Visions

1038 W. Harvard Blvd.

Roseburg, OR 97470

1-800-672-1880

Studio Visions is publishing a free information report showing what new



TutorVision3D is a set of six different video tutorials that are played back right on your computer monitor. They even automatically pause when you switch over to the LightWave interface, if you are following along with the tutorial.

Each volume also contains six additional text tutorials, interviews with professional LightWave users, information about and reviews of other LightWave compatible products, an Animators Showcase that features work from other LightWave users, dozens of royalty-free Objects

opportunities there are in the market for users of the Toaster, Flyer, and LightWave 3D to gather valuable tips, tricks, news, and tutorials.

To receive this free report, simply send your name and address to Studio Visions requesting the free Information Report and specifying which product(s) (Video Toaster, Flyer, and/or LightWave) you are using. If you have an e-mail address, please include it. You can also request the report by phone.

**FOR INFORMATION CIRCLE 7**





# TOASTER POST

## The Electric Toaster

Basic Safety for Your Projects and Equipment

by Jay Gross

**F**irst things first. Your Video Toaster won't work without electricity. Your refrigerator won't either, but this isn't *Refrigerator Freezer User* magazine, so let's just plug into the Toaster side of the kitchen. The Toaster is picky about the flavors of electricity it eats. It's sensitive to disturbances in the supply of volts, and it can exhibit erratic behavior if it doesn't get what it wants. Let's delve into the heady realm of electricity for a moment. The benefit could be a far more reliable Toaster post-production suite,

fewer and more traceable crashes, and a reduced need for headache pills.

***"For those who prefer to cut to the chase, here's a quick summary of what is to follow: Buy an uninterrupted power supply for your Toaster and Amiga to plug into, and check the computer's power supply for adequate negative 12 volts..."***

For those who prefer to cut to the chase, here's a quick summary of what is to follow: Buy an uninterrupted power supply for your Toaster and Amiga to plug into, and check the computer's power supply for adequate negative 12 volts (a full amp of it is barely sufficient).

Now, back to our story.

### Electricity 101

Computer chips run on direct current massaged out of the AC available from the wall socket; the "mains." To get DC, a power supply converts the incoming 117 volts (or thereabouts in the United States) AC to a variety of DC voltages that Amigas and Toasters eat. The power has different max capacities for the different voltages. The reason for the variety is that there are different needs for power within the computer. The power supply in any desktop or tower Amiga dishes up positive 12 (+12) volts DC, negative 12 VDC (-12), and positive and negative 5 VDC (+5 and -5). For reasons known mostly to electrical engineers (those are the guys with the slide rules, for nostalgia, and pocket protectors) video signals are moved around with negative 12 volts, disk drive motors run on positive 12, and computer motherboards eat +5. In some devices, other voltages might be present for

various other purposes.

Most older computer chips, including the Amiga's custom chips and their 68000-family microprocessors, still run on 5 volts, though some newer families work on only 3 volts or so. Most disk drive and fan motors insist on 12 volts, and some of the larger ones—Flyer-useful full height ones, for example—are exceedingly gluttonous for electricity. In DC, polarity is also an issue. Polarity refers the direction the energy comes from, or goes to. Some devices will run backward if reverse polarity is applied. Some just melt.

Even though the power supplies are solid state, power is largely analog. No matter what, Ohm's law will absolutely always definitely remain inviolate. Amps, Ohms, and volts are all fixed in their long accustomed relationship. Put too much drain (that is, Ohms) on a power supply, and it will cook itself into an expensive mush. Put too many volts into it, and it will reward you with a puff of blue smoke.

### Quantity

A power supply rated at 200 watts might seem adequate for any purpose, but it might *not* be enough for an Amiga Toaster edit machine. The reason is, moving video signals around puts a hurtin' on a power supply's negative 12 volt supply, and most computer power supplies fall way short of having enough to go around.

Both the Toaster and the Flyer consume mass quantities (in the parlance of the day) of that video voltage—negative 12 volts. Unfortunately, they sometimes demand more from the computers' power supplies than the supplies can supply, so oddities **can** appear.

A Toaster starved for 12 volts will refuse to come up, issuing the dreaded "Toaster not responding" message, or even fly south and insist on repair or replacement. If the power supply is at its limit for negative 12, you might get unpredictable behavior; sometimes it boots, sometimes not. Of course, an Amiga which contains both boards puts a much more serious hurtin' on the machine's -12v supply. Imagine the demand for negative 12 volts in a computer containing a Toaster, a Flyer card, several TBC's, and a Y/C converter card.

In an older Amiga 2000, the factory power supply is a big, ugly cage-looking dude that delivers .4 amps of -12 volts. The Toaster eats .2 to .3 of that, and the Flyer at least an equal amount. So, in a 2000 with both cards in it, there isn't much left for TBC cards,



DA's, Vector Scope cards, etc. The power supply has to be changed, even though its supply of +12 and 5 volts is still plentiful. The Big Foot (Micro R&D) replacement power supply offers three times the -12v supply. Not enough to waste, but enough to get the machine running.

Since most Amiga video accessory cards only get power from the ISA slots inside the Amiga, you can lighten the load on your power supply by moving these cards out to a cheap recycled case. Even a PC case will work. You only need the case, fan, and power supply, no floppies or hard disk drives required. Watch out for the power supplies, however. Even a tower-style PC 300-watt power supply is woefully short on negative 12 volts.

### **Keep It On**

Another thing about electricity is that it sometimes isn't there for a second or two, and the power company doesn't give 30 days written notice—except when they turn your electricity off for not paying the bill, but that's another story.

During the day, you might find that your good ol' reliable electric power is often interrupted for short durations; fractions of a second. In addition, it is frequently voltage-reduced for a short time below 90 percent of the expected power—105 volts or so. This is because of fluctuating demands on the local energy grid. These disturbances occur all the time, not just when there's an electrical storm a-brewing.

The solution is an uninterruptible power supply (UPS) that stores electricity in big, heavy batteries, usually for times of depleted supply. Circuits in the UPS's sense when power is not coming in, and swap their own battery power into the circuit, so your computer equipment won't miss any volts, amps, cycles, or whatever.

During reduced voltage, affectionately called a brownout, the UPS either kicks in its own power or transforms the incoming low voltage upward to keep the supply constant. Most units beep or otherwise carry on when they're correcting problems, so you'll know they're on the job, and also so you'll know your work is being saved from oblivion. Some UPS devices contain serial ports, with which they can notify a program running in your computer

to shut down logically. Since you want to keep working, this isn't what you want. What you do want is a long time of continued operation after the power fails. The room lights will be off, remember, so your work might be difficult in a windowless edit suite, but you can at least save those CG pages you're working on and exit the Toaster software logically.

For extra working time to tide over in the event of temporary power outages, connect only the most essential items to your UPS. That means, the Amiga(s), any external devices like modems, Y/C converters, hard disks, etc. Do not connect monitors, tape decks, cameras, and the like, and definitely not laser printers. The more demand you put on the UPS's batteries, the less time you'll have before they deplete when the power fails.

### **Time Out**

How long you can go without power is a question of how much total load you apply to the UPS's batteries and how large the UPS's capacity is to begin with. UPS's come in ratings of watts, like 100, 200, 400. The larger the rating, the more power the unit can supply, and the longer it can go without being powered. For a minimalist Toaster installation, you probably want 200 watts or so, at least. The larger units would be much better, however, as you'd have more working time in a power outage. After you go above 400 watts or so, UPS's become extremely heavy and rather expensive, so consider multiple small ones. Maybe one for each of several devices instead of one big one.

The batteries in a UPS recharge after a power outage, but they don't do so immediately. After a total depletion, a complete recharge could take several days. So, after you wipe your brow and thank your lucky stars for saving you from disaster, be forewarned that your UPS won't be

***"Electricity supplied by your local power company fluctuates much more frequently than you might think, much more frequently than your power company will admit, and much too frequently for computers to operate without trouble. In addition, the power from your power company contains spikes of high voltage..., especially during electrical weather disturbances."***

fully capable for awhile.

### **Supply and Demand**

Electricity supplied by your local power company fluctuates much more frequently than you might think. Much more frequently than your power company will admit, and much too frequently for computers to operate without trouble. In addition, the power from your power company contains spikes (momentary jolts of high voltage—often frighteningly high), especially during electrical weather disturbances. The power can also contain modulations picked up from outside sources.

During times of great demand, power companies routinely reduce



voltage by several percentage points. So, a power supply that's expecting 117 volts (thereabouts) might actually get only 110 or 108 volts. Some power supplies can cope with voltage shortfall, and some can't. The ones in Amiga computers are generally in the latter category.

### Surge Exorcism

Converting the rather erratic power from the wall socket means the same problems will be transformed into the computer's favorite voltages, unless you take steps to condition the power before it hits (perhaps literally) your equipment.

To ward off electric demons, there are talismans, potions, and magic spells, some of which you might not have considered. The first thing, the simplest thing, and most important thing is surge protection. A surge can occur for many reasons other than lightning disturbances. Say your Toaster is in a building where there are lots of restaurants. Convenient for long lunches, and excellent for getting rid of excess profits, but restaurants of any size are major consumers of electric power. Grills, large refrigerators, broiling equipment, ovens—all of these get turned on and off (by thermostats, if not people) throughout the day, and every time anything big goes on or off, the power in the whole circuit could momentarily fluctuate, and probably does. If you're on that circuit, your computer's power supply is being challenged until the power grid adjusts to the new load.

Another potential trouble (pun intended) is the voltage spike that often occurs when a large motor starts. The motor can be far away from you, say in a large air conditioning unit, and still may cause trouble. A voltage spike that goes into your computer's power supply can come out the other side neatly transformed to the wrong (high!) voltage. If they're high enough and long enough, spikes can seriously damage your equipment.

The magic potion against spikes is a surge protection device of some kind, and there are many to choose from. Surge protectors use a switching device (metal oxide varistor, or MOV) to shunt the extra voltage to ground *fast*. The power is interrupted for such a short time during the

shunt that operation isn't harmed. Indeed, harm is prevented. Good surge protection devices have more than one MOV, usually three, but most of the packages don't tell you how many MOV's are present except with the price tag. UPS's generally have excellent surge protection built in.

***"Although surge protection devices make you feel warm and fuzzy about your equipment, they can fail. They can even take your equipment with them when they go. Look for the ones that promise to announce their own failure by turning on a pilot light, sending up a flare, whatever."***

### Conditions

Some of the better surge protectors and most of the UPS's contain "line conditioner" circuits which attempt to smooth modulations due to motors (EMP) and other electric devices. Many of these also attempt to filter out RF and other impurities in the wonderful ol' 60-cycle volts coming out of the wall. Okay, it's 60-cycle only in some parts of the world, but you get the drift. RFI and EMP filters aren't as likely to damage your Toaster. Since you're going to deal with video, it would be nice to exclude any noise from the system's power, lest it appear in your video signals passed around inside the computer.

The best (and most expensive) of these filter devices contain an isola-

tion transformer. That's a transformer where the input is the same as the output voltage. It just sits there, keeping itself warm. Isolation transformers are excellent for cleaning up incoming power.

### Insurance Policies

Some surge protectors tout guarantees against equipment loss due to surge protection failure. As a practical matter, don't expect to collect unless you have excruciatingly thorough documentation for dates of purchase, present value, etc., as well as paid receipts for the repair or replacement and professional diagnoses of the failure. In short, such insurance policies can easily be little more than marketing drive. Your regular business insurance should be adequate.

In case of a lightning storm, there is no sure-thing protection short of transportation to a distant planet. Just being close to a lightning strike can induce enough energy to destroy electronics. In case of a momentary surge, a surge protector can mean the difference between working computers and non-working computers.

Although surge protection devices make you feel warm and fuzzy about your equipment, they can fail. They can even take your equipment with them when they go. Look for the ones that promise to announce their own failure by turning on a pilot light, sending up a flare, whatever. Generally, a cheap-o surge protection device is probably good for only a few festive electrical storms, though a quality one might last through many jolts. Many of the better ones have a test circuit so you can check on them. That's a very good idea, if you depend on them to keep your equipment in the pink.

Getting your equipment plugged in isn't as easy as it sounds. The thorniest issue is the negative 12-volt issue already discussed, but given a reliable, truly uninterruptible source of electricity, your Toaster system will behave smoother, happier, and crash less often.

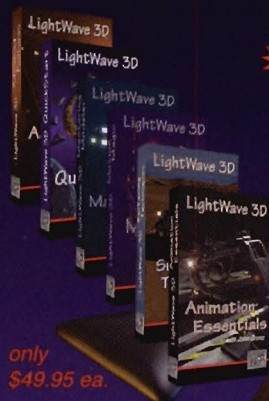
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*Jay Gross (no relation to the famous John Gross) is owner of J: Creative Services in Lexington, South Carolina. He is e-mailable at [jaygross@shell.portal.com](mailto:jaygross@shell.portal.com).*



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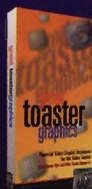
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# THE FLYER SUITE

## From Audio to Image Conversion

Answers to Your Flyer Questions

by Joe Tracy



**H**appy New Year! Recently the question I've been asked most is "how do I properly use the 'edit to all audio' feature?" I've used this feature with great success for a TV program I produced last year called *Pet Watch*. Every episode had a section called "Pet Showcase" where viewers would send in video clips of their pets that would be edited to music using the Flyer's 'edit to all audio' feature. Here's how to do it.

### Editing To Audio

*"Q: I have a sound effect of a gunshot I want to occur at the time a gun trigger is pulled in my video clip. How can I create a perfect match?"*

1) Record all the video clips you will use to your video drives. If you won't be using the clip's audio then in the Record Panel select Video only before cutting the clips to your drive.

2) Once all the clips are recorded, move them to the project screen.

3) Arrange the clips in the order you want them to play back.

4) Set each clip's In Point to where you want it to start.

5) Move the music you'll be using from the audio drive to the program screen.

6) Place the audio clip just after the first video clip, making sure the Lock To is set to in-point.

7) Set the in-point of the song to just two frames from the start of the music unless you want a deliberate pause.

8) Highlight the video clip immediately following the audio clip.

9) On the middle menu bar select the Tools button and then Edit To All Audio.

10) A screen appears that says "Ready to edit to

music." When you are ready, hit OK.

11) The music starts playing, signifying it playing over your first video clip. Every time you hear the appropriate beat in which you want to switch to the next clip, hit the space bar. You'll notice that the next video clip is now highlighted. Every time you hit the space bar, the next clip is highlighted and the previous clip shows a little lock in the upper right corner. The lock signifies that the in-point of the clip was appropriately locked to the audio at the time you hit the space bar.

12) When you run out of clips or the music ends, hit the stop key with the cursor. A message comes up stating "Shall I fix the out-points necessary to accommodate the croutons just edited?" Select OK.

13) Hit play to see the final results!

### Your Questions Answered

**Q:** When I hit play I get a message that says, "Warning! Sequencer inserted black at one place(s) in this project due to locked video. Select cancel to abort and select each..." What does this mean?

**A:** This means that at least one of your clips was shorter than the time you allotted when hitting the space bar. When you hit cancel, it will highlight the troubled clip. In some cases it will highlight the clip after the troubled one. All you have to do is open up the control panel and see if the Out Point is at the maximum setting. If so, that's the clip that needs more video. You need to give the clip more time by setting an earlier in-point, re-recording it, or you need to cut away from that clip sooner.

**Q:** I moved one of my clips to a different position in the project and when I pressed play I got an error message saying "Problem discovered: Video croutons out of order." Now my project won't play. What do I do?

**A:** Every time you hit the space bar when editing to music, you locked a clip to that part of the audio. Now that you've moved a clip the lock is "misinformed." Remove all the locks on the clips by selecting them and pressing Alt L. This unlocks the clip and allows you to freely move them and test them in different positions and record again if necessary.

**Q:** The "edit to audio" function is cool, but what if I want effects between the clips?

**A:** Get the project edited to the audio first, then you



can add transitions. Be sure to save the original version first, however. For slower songs, fades are nice. For faster paced songs cuts tend to work better.

### Timing Sound Effects

**Q:** I have a sound effect of a gunshot I want to occur at the time a gun trigger is pulled in my video clip. How can I create a perfect match?

**A:** Great question! There is a way this can be done so that even if you move your clip or change the in- /out-points, the audio will remained perfectly timed to the pull of the trigger. The trick is to move your audio clip to just after the video clip, open the control panel and highlight Clip next to Lock To. The default setting is most likely in-point, but you want it to read Clip.

Now open up your video clip control panel and move the in-point to the exact place where you want the gunshot sound to start. Make note of the in number. Now hit cancel and open up your audio clip again.

Move your in-point slider to the start of the gunshot sound. In the Start Time box, place the number you just made note of (the start of the gunshot on the video). Click Continue. You're done! The audio's start time doesn't read from the in-point of the video clip, but rather the starting point of the clip regardless of settings.

Now you can edit the clip without fear of having to edit the audio again! If you move the video clip to a different place in the project, be sure to move the audio clip with it and everything will remain in sync.

### Move Flyer Clip Error Message

**Q:** I'm using two SeaGate drives with the revision. I've short stroked both drives. Sometimes when I play a project, however, I will get a message that tells me I need to move my clip to a faster drive. When I reboot my computer sometimes the message will go away. My SeaGate's are short stroked in HQ5 so how come the project won't play?

**A:** NewTek's next Flyer upgrade will address this problem. For now a quick fix is to go to the Tools button and select Options. Under Options deselect "Stop Sequence on Timing Errors" (turn it off). This should correct the problem.

### Converting CG Pages To Flyer Stills

**Q:** I have a bunch of CG pages that I'd like to convert to Flyer stills. Is there an easy way to do this without recording each one?

**A:** Yes. First create a folder that your CG pages will go in. To do this, in Project/File mode go to the CG panel (which displays pictures of your CG creations). On the bottom right hand corner hit the New Folder button. Give the folder a name. Save or move all the CG images you want to change to Flyer stills into this folder. Now go to your ARexx panel. Double-click the ARexx icon called BatchStill.

***"For those who like the fast-paced MTV-type look, you should check out the BWBorderVign script in TPaint. This processing script will render an entire clip, frame by frame, producing a black and white background version with the same image in a slightly smaller but full color box."***

A message will pop up asking for the location of the Framestores.

Go back to the CG panel and double-click the folder containing the images you want to make to Flyer stills. Now click OK (the name area may say No Filename. Don't worry about it because you've determined the location manually). Another message will come up asking you which Flyer drive you want the images saved to. Open one of your drives (it may have done this for you) and hit OK. It will now ask you for the Compression mode you want. Select the one you want (HQ5 being the best) and hit

OK. Another message will ask if you still want to continue. Select Continue. It will now render each and automatically save it as a Flyer clip. **Warning:** Make sure that none of the names of your CG images or framestores are the same as one of your Flyer clips. The results could ruin your video clip.

### Toaster Paint Script

For those who like the fast-paced MTV-type look, you should check out the BWBorderVign script in TPaint. This processing script will render an entire clip, frame by frame, producing a black and white background version with the same image in a slightly smaller but full color box. So if you had a video clip of a jogger running, you'd see the color picture of the jogger on a black and white version of the same picture. To accomplish this, do the following:

- 1) Load ToasterPaint.
- 2) On the bottom menu bar, select the Process button.
- 3) Click the button that says "(none)" under the Source Clip header.
- 4) Select the drive and clip that you want to process. Click Clip Select.
- 5) In the top right hand corner, select the pull down menu under the Process Clip header. Highlight BWBorderVign.
- 6) If you only want to process a portion of the clip, then insert the First and Last Frame you want to process under the Frames to Process header.
- 7) Now just under the BWBorderVign you selected, click the Process button.
- 8) Select a drive and new file name for your new clip then click Clip Select. It will now begin processing the clip and showing the results of each image on your Program monitor. The process is very slow so now would be a good opportunity to enhance your social life. You'll find the finished clip on the drive you saved it to upon its completion.

VTU

Reach Joe Tracy by e-mail at [jtracy@main.rosenet.net](mailto:jtracy@main.rosenet.net).



# DR. TOASTER

## More Upgrading Woes

### Workarounds for Toaster 4.1 Bugs

by Dan Ablan



**W**ell, Christmas is over. Did you get anything good? A brand new Flyer system? How about those two 9 GB hard drives you've been dreaming of? OK, you got *socks*. But socks are good—everyone needs some new socks. So, you still have the same system. You've upgraded recently, and you're experiencing lots of weirdness. Well, there's nothing really wrong, it just goes with the territory. When you upgrade an operating system such as the Toaster/Flyer many previous projects, files, and third-party add-ons don't want to work as well as they used to. Here's a question I received via e-mail.

***"You've upgraded recently, and you're experiencing lots of weirdness. Well, there's nothing really wrong, it just goes with the territory. When you upgrade an operating system... previous projects, files and third-party add-ons don't want to work as well as they used to."***

**Q:** Dear Dr. Toaster, As you may know, stand-alone users of Toaster 4.1 got a program (in particular, the paint program) replete with bugs. In fact, the paint program has so many bugs, it's unusable for serious paint users. Thank God I didn't remove 3.5 from my system. ChromaFX is also unusable. C.G. has several bugs in it, but at least you can use it. LightWave 3D has improvements but renders slow. In a nutshell, we were promised an improved Toaster, but got program, much of which is unusable for serious users.

On contacting NewTek, they agreed there were many bugs. "Well, you'll have to buy the next version of the Flyer software. The fixes will be in that." That's what they said. No specific fix for 4.1 is in the works, or so they tell me. "Sorry about that." How's that for software support? We just bought 4.1 and I want a fix disk! So do other 4.1 users! We shouldn't have to buy new software for a fix! Dear Dr. Toaster, maybe you can give us some insight into this rotten situation. Help! Help! Help!

Thanks!

From the next Angry Young Man,

Jim Vergara

TCRP50A@Prodigy.Com

**A:** Dear Jim,

I understand your plight. I have to agree, there are many bugs with the new Toaster 4.1. NewTek is working on fixes, and I'm told by tech support that as soon as something is available, they'll let everyone know. However, by the time you read this article, there may already be a bug fix released.

In the meantime, here's an option. Overall the Toaster 4.1 is a darn nice improvement to the Toaster environment. All bugs aside, it's got some great features. Sequencing of Framestores, full screen ToasterPaint, as well as TPaint's cool new features. Even the CG is improved. Keep in mind, I'm not at all trying to sell the upgrade, and I don't get any cash for mentioning it. I simply like what they've done with it—all bugs aside, of course.

What you can do is reinstall your Toaster 3.1, and place it in a separate directory. Many Toaster/Amilink users have adopted this method before they were able to purchase the Amilink upgrade for 4.1. Others use this option to continue using their old project files. This may be the work-around for you for the time being. Hang in there.

**Q:** Dear Dr. Toaster,

I recently purchased Art Department Professional. I'm ready to install it, but have not because I want to upgrade to Toaster 4.1. I've worked with 4.1 at a friend's and like the new design. My question is, will I run into conflicts using ADPro with Toaster 4.1? ADPro is not really supported any longer, and I'm told that ASDG is now Elastic Reality?

Thanks for the help,  
Susan Karapolous  
Tampa, FL

**A:** Dear Susan,

I've been told, ASDG is now Elastic Reality. Elastic Reality closely resembles Morph Plus, if you've ever seen it. In any case, you don't have to worry. ADPro works in conjunction with the Toaster, in the Amiga's general operating system. You can use ADPro without even booting the Video Toaster. ADPro is a great add-on for Amiga/Toaster/LightWave users because it offers superior control over your images in terms of size, scale, color and file type. You can even warp and apply some interesting effects to your images. There are add-ons to ADPro that allow you to process batches of images as well. I still use ADPro,



actually, even more now that I do mostly LightWave work on Pentiums. The ADPro interface allows me to convert any Framestore or image to just about any file type, such as JPG, GIF, TIF, and so on. I can also convert my 752x480 size framestores to 640x480 for clean import into another paint package on the PC, such as Photoshop.

Many programs that run independently of the Toaster won't be effected by the 4.1 upgrade. ADPro is a good example, as is Directory Opus and Quarterback. Those are Amiga programs, not Toaster programs. Rest easy.

Too often, computer users expect things to be flawless, and at times, they are. Most of the time however, things to go wrong, either by a file being deleted that shouldn't have, or a system that basically has problems. Even though computers today do fantastic and wondrous things, they are still *machines* and nothing more. They do break down. It's odd, you may even believe that your computer or Toaster system has its own personality. It has its

good days, and it has its bad days. Recently, I added a new system to my arsenal of LightWave power. Because of the new system, I was able to redirect the use of another machine, to more of an Internet/Office workstation and secondary LightWave machine. I backup my work regularly, so updating the other system was not a problem.

About every six months I like to reformat my main hard drive and start clean. This helps keep the integrity of the drive, eliminates disk fragments and old files that sometimes take up space unnecessarily. I don't bother to backup software because I can simply reinstall it from a CD. I only backup the work.

So, I proceeded to reformat the drive and reinstall WindowsNT. I've done it many times before, no problem. Well, to make a long story short, it took a whole day of trying, and trying, to no avail. For some reason, the system kept shutting down the install, crashing on the setup, and so on. I couldn't find the hard drive, or sometimes it would simply hang and not finish a

boot sequence. About 2 a.m., I went home and went to bed.

The next morning, with a large cup of coffee in hand, I tried the install again. You know what? It worked like a charm. Nothing changed from the night before. That, my friends, is how flaky computers can be. They do have their own personalities, and the same goes for the Amiga and Toaster. Be patient, and don't go ballistic when things don't work. A clear head and a good night's sleep is not only good for you, but your computer as well.

Still, I have to say I never really ran into any of these problems with a Macintosh—only PC and Amiga. Hmm...perhaps NewTek can release a real Toaster for the Mac? Naahhh.

VTU

*Dan Ablan runs AGA Digital Studios in Chicago. He has worked with the Video Toaster and LightWave 3D for six years, and is also the author of The LightWave Power Guide, available now your local bookstore.*



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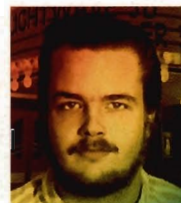


# TAMING THE WAVE

## Back To Basics

Dave's Top 11 List of Basic LightWave Tips

by David Hopkins



**W**elcome back to "Taming The Wave." This month we're celebrating the New Year and yet feeling a bit blue over the loss of a valuable LightWave 3D resource. Over the last five years we've come a long way with LightWave and I'm glad you all joined me on the journey. I want to wrap up the *Video Toaster User* incarnation of "Taming The Wave" with some essential wisdom. Sure, maybe you've heard it all before, but these are the things that you should be reminded of again and again. And since this is January, the time when people make New Year's Resolutions to improve their lives for the year, what better time to examine some LightWave basics and improve your animation technique?

***"Figure out what you will see in your animation before you start building. By optimizing your construction you can add still more detail to your scenes without bringing the rendering to a screeching halt."***

### **1) Build only what you need.**

The unfortunate reality of working with 3D animation is that you probably don't have an infinite amount of RAM and processing power. Sure, it would be nice to have scenes where every item in it was detailed to the utmost perfection, even sides you don't see in the course of your work. But you can't.

Figure out what you will see in your animation before you start building. By optimizing your construction you can add still more detail to your scenes without bringing the rendering to a screeching halt. So how do you decide what stays and what goes? If you don't see it, you don't need it.

We've all seen how studio lots are designed—facades. The exterior of a building may be highly detailed, while inside you're likely to find that there's nothing but the framing needed to hold it up. Keep this concept in mind when you build. If you have an animation with a car driving by camera, for instance, it's likely that the car won't even need to have polygons on its far side. Like grocery store coupons, it

may not seem like much of a savings all by itself, but the savings do add up.

Don't build out the interior of a storefront if you're only going to see it down at the end of a street. So how do you manage to get it to look like a store full of goods from such a distance? Image maps can be wonderful things. Need a grove of trees to occupy some land in your shot? You may be able to get by with only one or two real trees, and the rest as image mapped polygons.

There *are* times, however, when you will need to have true structures where you would like to use facades. If you have reflective items in your scene, for example, you may need to have a backside. Or if your lights are pointed in such a direction that the lack of polygons shows up as incorrect shadows. In cases like those you will need to think carefully and decide what is needed and what is not.

### **2) Build in scale.**

Let's say that you build a highly detailed VCR for an animation. You put tons of work into it making sure that all the visible moving parts move, the labeling is all accurate—it's a perfect copy of its real-world counterpart. Now, six months later you are setting up a scene in a bedroom and think, "Boy, wouldn't that VCR look nice there next to the TV?" Only problem is you've built the TV and VCR at completely different scales. When they appear side by side something is definitely wrong. Maybe you can scale an object down (or up) to appear appropriate, but if the items were built to proper scale in the first place you wouldn't have that problem. Every item you build should become part of your "digital backlot," a collection of props for use at a moment's notice. Building to scale means never having to say, "It just don't fit."

### **3) Spend polygons where they'll do you the most good.**

I've seen many people attempt to do ocean or other large bodied water shots in LightWave. Almost every one I've seen works with the same basic principle. Make a *huge* flat plane and subdivide and triple the heck out of it. Apply displacement and bump mapping as well as the other surface attributes and you've got water with choppy waves. You can make great looking water this way, and I'm not faulting it directly. The problem is that in order to get the portion of the water surface nearest the camera to appear realistically rough you need *lots* of polygons.



But in the far distance, near the horizon line, for example, the camera doesn't see the bumps nearly as well, yet you've still got hundreds or thousands of polygons defining it.

Here's a better way to approach it: Make your single huge flat polygon. Subdivide it twice. You should end up with your single flat polygon getting divided into regions (4x4 in this case). Select the region that will be closest to your camera and do another subdivide. Deselect your polygons and keep reselecting and subdividing (and tripling) those closer to the camera. This will result in a water surface that is polygon heavy near the camera and gets less dense as the object proceeds away from your camera location. If you are using both a displacement map (physical bumps) and a bump map (illusionary bumps), simply have the displacement map falloff as it proceeds into the distance while the bump map does not. The bump map in the distance will look just as realistic in the far distance as a true displacement map and use *far* less polygons.

Another case where extra polygons are usually worthwhile is with rounded or smoothed objects. There is nothing more distracting to me in an animation than an object trying to pass itself off as round and smooth when facets are clearly evident along the edges. A perfect example of this is the apple that comes with LightWave. Detail problems like this cheapen the quality of your work. If an object is supposed to be rounded and will be near the camera, invest in some more polygons for it. You'll be glad you did.

#### 4) Don't reinvent the wheel.

There are some excellent models already built and waiting for you to bring them to life. I don't mean the stuff that came with LightWave, I mean professional models from companies like Viewpoint Datalabs, 3Name3D and others. While an object may not seem cheap by its price tag, stop and think how long it would take you to build the same object. If you make a hundred dollars per hour while modeling (an example figure I pulled out of thin air), and you know that you can buy the finished object for, say \$300, you need to decide if you could reasonably build that model yourself in

three hours. If not, buy it. I know far too many animators who will express shock at the idea of spending \$300-400 to buy an object but will instead spend a week of their own time building it. This is called *wasting time*. Remember, time is money, especially in this business.

Another avenue for objects is the public domain. There are a number of resources for public domain objects and one of them, Light-ROM 3 from Graphic Detail, is a must have. This is a *ton* of objects, textures, images, and other goodies on three CDs for around \$50. Many of the items make excellent animation fodder as far as background items go, many of them are actually featured performer quality, and if nothing else you can use them as templates to build your own renditions. There are also many 3D-oriented BBSS that offer public domain objects, and the Internet is an excellent source for others.

***"Reduce images down to the***

***lowest acceptable image***

***type. Black-and-white (aka***

***grayscale) pictures can save***

***loads of space."***

#### 5) Not every image map needs to be 24-bit.

There is only one texture channel in LightWave that doesn't throw away 24-bit information—color. The others including Diffusion, Specularity, and the rest actually strip the image to grayscale before application. Also, 24 bit pictures are pretty sizeable and can waste a lot of RAM. Reduce images down to the lowest acceptable image type. Black-and-white (aka grayscale) pictures can save *loads* of space.

#### 6) Turn those lights down!

In the default settings that are there when you start a new scene you'll find that the Ambient Light is set to 25%. It comes this way so that any newbie who tries to load an object and render it his first time using LightWave is not treated to a solid black rendered screen. Your first order of business should be to turn that light *way* down. Many professional animators turn this light completely off, in fact. If you usually leave the Ambient light the way it is, try just setting up a scene as normal and turning it down to around 5%. Add light sources to compensate for what you've lost. Not only will you achieve a more natural lighting scheme, but you'll also come up with a much more intricate looking animation. Lights are as important as your objects. Remember to pay attention to what does and does not need to cast or receive shadows if you intend to raytrace.

#### 7) Small details can make big differences.

3D Rendered images are notorious for looking like what they are. They're just too clean and perfect. You, as an animator, have the unique job of intentionally inserting "flaws" in your animations. Dirty things up! A subtle layer of fractal noise in the Diffusion texture channel can do miracles. A burnt out street light in a driving scene. A piece of newspaper being blown down the street in a storm scene. All of these things lull the viewer into the belief that what they are seeing is real.

#### 8) Keep the action moving.

I see a pretty large amount of work done by animators looking to get into the business. A lot of it starts to fall into a predictable formula. One action will take place, then the next action, then the next. The real world isn't nearly so sequential. Let's say you're doing a logo. (Bet you've never done one of those, right?) The logo flies in and lands. Beams shoot from it towards camera. The camera zooms toward the logo until it crashes into it effectively ending the logo. It's simple, it's effective, but it's *boring*! You might try starting the beams *before* the logo lands. You might start the camera push as the beams are beginning. Weaving actions together is very important to create a flow



within an animation. If you can look at your animation and tell that you are waiting for something to happen, you need to fix it.

### **9) Antialiasing is a good thing.**

Don't you hate crawling edges? I certainly do, and there are a number of things you can do about it. The obvious solution, of course, is to step to higher and higher levels of antialiasing in the camera panel. While this does work well (especially if using LightWave 5.0's new Enhanced AA modes), it can be expensive in rendering time. My first quick and pretty solution is WaveFilter from Unlimited Potential. It offers antialiasing pretty darn close to LightWave's Enhanced modes in less time than LightWave's normal modes as well as other excellent tools.

Short of that though, try using a soft filter on your lens. This will help to blur the edges of objects. You might try adding a very small amount of edge transparency to surfaces that are troublesome. If you can get rid of the details that give away the computer-generated origin of your work, you'll be well on your way to success.

### **10) Motion blur whenever possible.**

Now this is the tip that eats up all that rendering time that you've saved by using the other steps. Motion blur can make a major difference in your scenes. While it seems to take forever, try to use LightWave's new dithered motion blur for an even better result. We have all of these *big boy* features in LightWave for a reason: making *big boy* animation.

### **11) Get on the Internet.**

Now what's this got to do with making you a better animator? Besides the fact that you can participate in the LightWave newsgroup and mailing lists and easy sources of 3D objects as mentioned previously, you gain access to the ultimate reference material. Here's an example: Recently I was texturing a Jeep model purchased from Viewpoint.

Not being an avid car buff, I was not sure of the surfacing in certain areas. A trip to Yahoo (a wonderful net search tool) and a search for the word Jeep turned up a plethora (yes, a plethora) of sites relating to Jeeps in one way or another. One of them was Jeep's homepage, chock full of pictures of the very vehicle I was texturing, from all different angles.

***"In a section of the Internet called Internet Relay Chat (IRC) you can find scads of experienced and wanting-to-be-experienced folks loitering in a channel called LightWave providing real-time contact with other animators. Nothing solves a problem quicker than throwing it into the channel to be disemboweled by the regulars."***

Information at your fingertips is what the Internet is all about, and you should use it to your advantage. No matter *what* you are making you're likely to find information and/or pictures of it on the internet.

In a section of the Internet called Internet Relay Chat (IRC) you can find scads of experienced and wanting-to-be-experienced folks loitering in a channel called LightWave providing real-time contact with other animators. Nothing solves a problem quicker than throwing it into the channel to be disemboweled by the regulars. Just be careful to keep your netting under control or you could find the internet a stunning time consumer.

If you choose to join the Internet, *don't* do it through America Online (AOL) or another of the large services. They charge you the entire time you're on the net (which is likely to be far more than you expect, though at the time of the writing of this article there have been rumblings of this changing) and you're forced to use their choice of software. Locate an Internet Service Provider (ISP) in your area (look under "Internet" in your Yellow Pages) that can provide you with unlimited access for a flat rate and join them instead. \$20/month seems to be about the average. By the way, you'll want a fast modem, preferably a 28.8.

These tips, if practiced frequently, will allow you to make 1997 a much more productive year. Hopefully you can see the logic behind all of these things and expand them into still more useful ideas. If you intend to compete in today's animation arena, constantly strive to improve yourself. Perhaps the most important tip is this...never believe you know *everything* about animating with LightWave. I don't, John Gross doesn't, Dan Ablan doesn't. I would bet that even Allen Hastings doesn't. There are new uses for old tools found every day. It's up to *you* to push the envelope.

So here it is: the end—or is it? Once you're on the web, come on by my place at <http://www.primenet.com/~lthouse> for a spell and follow the further exploits of "Taming The Wave." My intention is to continue posting new articles on a regular basis so our journey can continue. Thanks to all of you and best of luck bringing your dreams to life! Goodnight Mrs. Calabash, wherever you are!

**VTU**

*David Hopkins is founder and President of Mach Universe and Lighthouse Imaging. His home on the Net is <http://www.primenet.com/~lthouse>.*



# CYBERSPACE

## Get on the Net

Surfing With Your Amiga is Worth the Effort

by Geoffrey Williams



I promised that I would discuss how to get the Amiga up on the Internet, and this month we are going to cover some of the basic information you need on that subject. The first thing to understand is that Internet access is not supported on the Amiga the same way it is on the Mac or PC. A lot of what you need for those systems is already built in to the operating sys-

tem, and you can find them by picking up one of the many Internet related magazines. You need to find one that offers a local dial-up number. I do not recommend America Online, because it does not offer a direct connection to the Internet, they censor heavily, and it gets very expensive unless you hardly ever use it. Most services offer unlimited on-line time for \$19.95 a month.

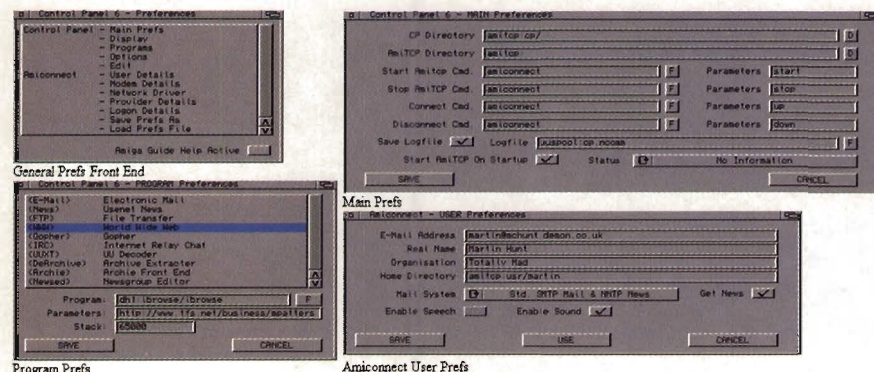


Figure 1: Martin Hunt's CP6 simplifies installing AmiTCP and other Internet utilities.

**"First of all you need a modem, preferably a 28.8.**

**Cruising the Net in low gear is not nearly as much fun. Then you need a service provider.**

**There are tons of them, and you can find them by picking up a local computer magazine."**

tem, and the software available is pretty much plug in and go. On the Amiga, it requires a lot more effort. Unfortunately, we are second-class netizens. If it weren't for the wealth of utilities available on the Internet for Amiga users from the many fine freeware and shareware authors, Internet access would be much more frustrating.

Here's what you need to get started: First of all you need a modem, preferably a 28.8. Cruising the Net in low gear is not nearly as much fun. Then you need a service provider. There are tons of them, and you can find them by picking up a local computer magazine. There are also several

standard protocols for communicating with a network), and a number of utilities such as finger (find someone else), ftp (file transfer protocol, a standard way to download files from a remote computer), and telnet (a protocol to access a computer remotely, the standard way one connects to a BBS through the Internet).

One document that might be helpful is the AmiTCP/IP FAQ. It can be found on Usenet in comp.sys.amiga.applications and comp.sys.amiga.networking. It answers most of the questions you might have about what all these acronyms mean, basic questions about installing AmiTCP, and the various resources available to get more information.

AmiTCP does not directly support PPP (Point to Point Protocol), which has become the more generally accepted standard over the older SLIP. It is faster, has error detection, is more extensible and can negotiate IP numbers for serial dial-up. Holger Kruse's PPP1 allows you to add PPP to AmiTCP through a PPP.device.

The Usenet newsgroups number in the thousands, covering almost any topic you can imagine (and many you couldn't). GRn by Michael B. Smith and Michael H. Schwartz is a Gadtools-based newsreader for the Amiga. The latest version (2.1a) works with the latest

### TCP/IP Configuration

The next step is to configure your system to be able to talk to the Internet. This means installing TCP/IP, which stands for Transmission Control Protocol/Internet Protocol. It is the standard used to allow different computers to communicate with each other over the Internet.

There are a couple of commercial products and a couple of freely distributable products available. One of the most popular is AmiTCP, which is available on the Aminet and on Fred Fish discs. It includes the TCP/IP stack, a SLIP and CSLIP driver (these are



version of AMiTCP (4.0). It gives you an Intuition interface for viewing Newsgroups and reading messages.

Getting AMiTCP installed and working with the above programs is no trivial task. Fortunately, there is a way to make the entire process much easier. Martin Hunt's CP6 is a replacement installer for AMiTCP 4.0. Not only that, it will also install GRn and PPP. It makes the entire normally arduous installation process much easier, and makes for relatively seamless Internet access. It also provides you with a control panel that lets you control AMiTCP to autodial using your modem and log on to your service provider. Without some type of dialer the software can lock up, so this is an important thing to have. It will also log calls so you can keep track of how long you have been on-line. CP6 also provides you with control panels for AMiTCP, eliminating the need to do everything from the CLI. Besides providing a GUI front end for AMiTCP, it also controls various internet tools such as archie, ping, finger, traceroute and askhost. It also is a program launcher for Internet related utilities such as WWW browsers and graphical FTP clients.

Finally, you need a browser if you want to surf the World Wide Web. I have covered browsers in past columns (Cyberspace, August 1996, and Cyberspace November 1996).

### **Word About Web Sites**

In my writings about Aminet recently, I gave you directions on how to navigate through the ftp sites, which do have some benefits in that you can view file dates to see how recent they are, and I prefer it because you do get a little more information. There is a regular home page that is easier to navigate, though. It is maintained by Urban Mueller, who does an excellent job with it, and can be found at [www.usa.aminet.org/aminet](http://www.usa.aminet.org/aminet). There is a search engine to find Aminet files, and the display of files shows the downloadable file on one side and a brief file description you can click to read a more extensive file description. Clicking a file starts downloading directly to your system. One thing that can be confusing if you access the ftp sites is, when you click the highlighted file name a bunch of garbage characters fill the screen. This is the file itself, although it is

not really displayable as anything coherent. Usually, you can go to the Save As option in your browser and save the file. In Netscape Navigator, right-click the file and a pop-up menu will appear. Choose the Save Link As option and the file will be saved directly without being displayed on the screen.

***"There are a number of  
music libraries on the Net.  
Shopping on the Internet is  
probably one of the easiest  
ways to go looking for  
production music,  
especially since most offer  
some type of on-line  
preview of the music. You  
can also order free  
demo CDs  
on-line."***

### **Discount Don's 3D Gallery**

Discount Don's has moved to [netwizards.net/~donh](http://netwizards.net/~donh). It has a lot of good links.

### **Bending Light**

Bending Light at [www.imaginative.com/BendingLight](http://www.imaginative.com/BendingLight) is a LightWave site created by Chuck Durham that is new but growing, and has a lot of potential. The Surface Depot is designed to collect surface settings and put them in a searchable database. The Object Library is a depository for objects as well as links to object sites. LightWave Resources has links to LightWave videos, books, magazines, and CD-ROMs. Light Board is an interactive BBS section where you can read postings and post your own messages regarding a variety of LightWave information. Secret Xchange has on-line tips and techniques. When I visited little was done yet, but by the time you read this it should be a bustling site.

### **The LightWave Message Board**

The LightWave Message Board at [garfield.unl.edu/~mohrt/webboard](http://garfield.unl.edu/~mohrt/webboard) lets you read and post messages about LightWave.

### **Ultimate**

Ultimate has been the leading compositing technology for the last 20 years, and their home page is at [www.ultimate.com](http://www.ultimate.com). It includes information on the difference between Ultimate and Chroma Key, as well as proper lighting, screen correction, colorizing, and shooting on film. It is a technology that any one in video should understand, and this site is a good place to learn about it.

### **Stock Libraries on the Net**

There are a number of music libraries on the Net. Shopping on the Internet is probably one of the easiest ways to go looking for production music, especially since most offer some type of on-line preview of the music. You can also order free demo CDs on-line.

### **Non Stop Productions**

Non Stop Productions at [www.nonstopmusic.com](http://www.nonstopmusic.com) has a very attractive site, offering custom music services as well as a music library. You can download samples in the mp2 format, an MPEG audio compression format from Xing. The samples are pretty short, though (15 seconds), and since you only hear a short selection from a single song,



you don't get a very complete notion of the scope of each disc. Its best just to order the demo CD.

### **The Fresh Music Library**

The Fresh Music Library at [www.freshmusic.com](http://www.freshmusic.com) offers 35 compact discs full of music. They offer the ability to preview the music in real time if you have the RealAudio

### **TuneBuilder**

TuneBuilder is a wonderful technology from Airworks Media that allows you to easily and automatically edit music to any length, without having to know anything about music. It is available for Mac, Amiga, and the PC. Their Web site is at [www.snazzy.com/Airworks/tunebuilder](http://www.snazzy.com/Airworks/tunebuilder). The music does have to be

out Cascom at [www.cascom.com](http://www.cascom.com), which has special effects, stock footage, and archival footage. Their on-line search engine makes it easy to find the footage you want from a wide array of topics. The Grinberg Film Archives at [www.grinberg.com](http://www.grinberg.com) offers a large collection of historical event footage from 1896 to the present. On-line searching lets you do

***"Arpeggio is a collection of 344 music selections that come bundled with TuneBuilder in a variety of configurations...Another TuneBuilder supporting site is The Music Bakery at [www.musicbakery.com](http://www.musicbakery.com). You can preview tunes in .wav, .aiff, or RealAudio formats...Their entire catalog is available on-line."***

plug-in, which lets you hear streaming audio without having to download the file first. The RealAudio file contains short version of every track on the disc, in the same order they appear on the CD. You also get a complete listing of every song on each disc, along with the lengths of the different cuts (full, :60, and :30). They do a good job of giving you a clear idea of what each disc has to offer. You can order discs directly on-line, with prices at \$45 for a single disc, 3 for \$99, and better deals from there the more you buy.

### **Creative Support Services**

Creative Support Services at [www.cssmusic.com](http://www.cssmusic.com) also uses RealAudio to let you hear samples of their music. The RealAudio controls appear right on the page, and when you access a category a spoken narrator takes you through each collection, with the music in the background. It is a very well done site from one of the leaders in production music, with over 5,000 tracks available. You can also order a demo CD on-line along with a 40 page catalog. I did have a little problem with an older version of RealAudio, but when I downloaded the latest version (their site jumps you to the Netscape download site) everything worked fine.

specially created to work with TuneBuilder, though.

From Airworks page you can jump to several music libraries that support TuneBuilder, including Arpeggio at [www.arpeggio-music.com](http://www.arpeggio-music.com). Arpeggio is a collection of 344 music selections that come bundled with TuneBuilder in a variety of configurations. The on-line samples are in .wav format and I was not able to preview them when I visited the site.

Another TuneBuilder supporting site is The Music Bakery at [www.musicbakery.com](http://www.musicbakery.com). You can preview tunes in .wav, .aiff, or RealAudio formats (although at the time I looked at it the audio was not streaming, and the demo cuts were very short). Their entire catalog is available on-line.

### **Stock Photography**

There are also many stock photography companies on-line. PhotoDisc at [www.photodisc.com](http://www.photodisc.com) lets you use their search engine to find and preview pictures you are interested in using keywords. You can then download them directly from the site. There is even a stock photography discussion group at [www.s2f.com/STOCKPHOTO](http://www.s2f.com/STOCKPHOTO). It includes an extensive listing of stock photo Web sites.

For stock video, you can check

keyword searches through the Paramount and Pathe Newsreel indexes. Global Village Stock Footage at [www.videosource.com](http://www.videosource.com) offers both stock photos and video. You can download their database, do on-line searches of thousands of hours of stock footage from around the world, and view a QuickTime demo.

As usual, if you don't want to hunt down the items I've written about this month, I have put them all on a two disk set (including the FAQ and other Internet related text files), which you can have by sending \$6 to: Geoffrey Williams, Internet Disk Offer, P.O. Box 10095, Glendale, CA. You can reach me on the Internet at [cbp@cris.com](mailto:cbp@cris.com).

I have enjoyed hearing from you over the years. Your kind comments and intelligent questions point out what a classy and knowledgeable group of people we have in the Toaster community. It has been a privilege to share my explorations in Cyberspace with you. If you'd like to keep up with what I am doing and where to find my latest scribblings, just point your browser to <http://www.cris.com/~cbp/wheres-geoff.html>. See you in Cyberspace!

VTU



# TOASTER TIMES

## DICK VAN DYKE TV Legend and Toaster Enthusiast

by Geoffrey Williams

Through 50 years in radio, television and film, Dick Van Dyke has seen a lot of amazing things. He's danced with animated characters in *Mary Poppins* and drove a flying car in *Chitty Chitty Bang Bang*. You would think that after all that, there would be little left to amaze him. He frankly admits, though, that he is still amazed by the things he can do with his Video Toaster and Flyer.

Dick has a complete setup; an Amiga 4000 with a Flyer card, 20 GBs of hard drive storage and tons of RAM. Before he got his Flyer, he relied on the Personal Animation Controller.

### The FX Veteran

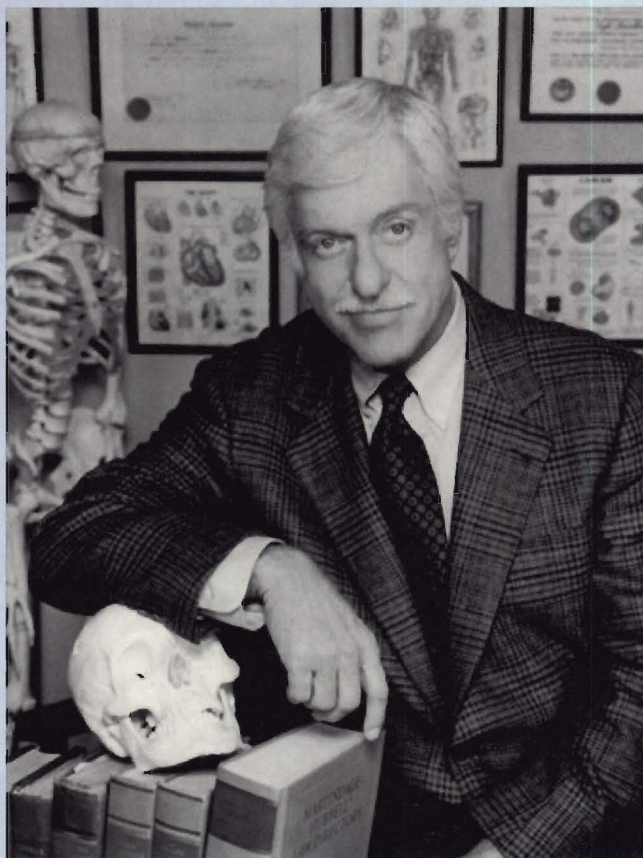
This television and film legend is no stranger to special visual effects. He first became fascinated by special effects during the filming of *Mary Poppins*, where Disney at that time employed a lot of rear screen projection using a yellow background called sodium screen. Over the course of several films, Dick has seen visual effects advance from early blue screen to modern digital effects.

One thing that has always intrigued him is the ability to create special effects by keying live performers onto any background the imagination can come up with. To do this, he bought an Ultimatte, the state of the art keyer. With a 9' x 15' piece of blue screen set up in a

room above his garage. Dick then proceeded to add himself and his kids to various movies, which he described as, "An endless amount of fun."

In 1992 he heard about this video device called the Video Toaster. He ordered one and had it sent to Denver, where he was filming his CBS series *Diagnosis Murder*. Dick had the Toaster set up on his desk and within an hour he had created a snow storm in Denver with a space ship flying overhead. "I just fell in love with the darn thing," he said.

By interfacing his Toaster with the Ultimatte, Dick says he was able to do "...some unbelievable things," even though he admits he still does not have a lot of technical knowledge. In fact, that is one of the things he really loves about the Toaster. As he said, "There isn't anything on the market so user-friendly and flexible as that machine."



**"Dick does much more than just  
scratch the surface of the  
Toaster's capabilities. In fact, his  
favorite feature of the Toaster is  
LightWave 3D."**

### Dick Knows LightWave

Dick does much more than just scratch the surface of the Toaster's capabilities. In fact, his favorite feature of the Toaster is Lightwave 3D, which he feels is superior to any other 3D product he has ever seen. He loves how flexible it is. He also rarely wakes up in the morning without an idea he wants to get up and try. In fact, he says, "If I could make a living at it, I'd do it."

Every time Dick sees a new movie, he tests his skill



and attempts to recreate effects from the film. Since seeing *Twister* he has been hard at work creating a realistic tornado. It's not easy, he admits, but he's getting there. He is also working on a recreation the scene of the White House with the alien ship over-

with a digitized version of himself (his "stunt double," as he refers to it) in the cockpit.

### Stereoscopic Animations

Dick is also a big fan of stereoscopic animations. Using LCD glasses that alternate views between two sets of 30 of the 60 available fields each second, it is possible to view stunningly realistic three-dimensional images. He finds LightWave to be a perfect tool for creating stereoscopic animations.

To create the backgrounds, Dick uses a Toshiba two lens video camera (one of only 500 made) which he went through a lot of effort to track down. He then uses LightWave to create the alternating fields and keys all of the images together, creating a stunning illusion of depth. He's constantly experimenting and learning new things. He even takes weekly lessons, and has been in close touch with the folks at Anti Gravity Products and such LightWave luminaries as John Gross.

During his last hiatus from

*Diagnosis Murder*, Dick began trying his hand at rotoscoping, which he admits is very laborious. It did give him a greater appreciation for the artists at Disney, he said.

### VTU Expo 1996

Dick Van Dyke was in attendance at the recent 1996 *Video Toaster User Expo*, where he picked up a copy of WaveFilter. He hopes it will help in using his Ultimatte with the Flyer. He is also anxiously awaiting the release of LightWave 5.0 for the Amiga, the system he still runs LightWave on.

Dick feels that tools like the Toaster are changing television. It has certainly changed his experience with television. Although he continues with his long running CBS series, he is in the unique position of also creating his own more personal version of television using the Toaster and Flyer.

VTU

*Geoffrey Williams writes the Cyberspace column for VTU every month. Reach him at [cbp@cris.com](mailto:cbp@cris.com)*



Dick Van Dyke at NAB '96 with former VTU editor Tom Patrick and NewTek's Donetta Colbach.

head from the film *Independence Day*. He also enjoys creating his own scenarios, and much of his efforts lately involve a World War I dogfight,

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In the business of video production and 3D animation, I have been working out of my home and keeping a low profile. My work usually comes from references. Somebody tells their business partner then they tell two business partners, and so on. Most likely, they hire me on the merit of my previous work. They want something similar to a project I did for another company. But there are those rare moments when the phone rings and suddenly you are asked to do something you had no idea anyone would need.

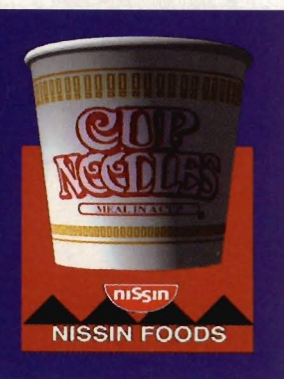
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B R W O A Y D  
B Y A L E X L U G O N E S

### High Quality in No Time

Here is the scenario: I get a call from Universal Unlimited, the leading manufacturer of custom and production signage. They have a client from Nissin Foods who needs to visualize their sign up in lights, not from storyboards as they are accustomed to doing, but from an animation on videotape. They need to see the sign layout with colors and animating light sequences. It is the least they can ask for before plunking down millions of dollars and having their product displayed in New York City's prominent Times Square district. The sign requires over 25 unique lighting sequences that occur over a period of four minutes and repeats after every cycle. I am presented with a blueprint of the sign, art work and a storyboard. The storyboard shows the lighting patterns, lighting effects and durations.

At this point, I am left with the decision of how to approach the entire project. First I took two major factors into consideration: Time and budget. These two factors always affect the level of quality in any job. It would be wonderful to do a fly-through over the Times Square area using LightWave 3D, but I think it would be overkill for this project. Besides, I would need an extended deadline to build the objects. This is something my client cannot afford. I have learned to never accept a job I cannot handle, but if I do accept a job, I better produce a high-quality product, especially because most of my clients are referred to me. It would



Final Cup

be terrible to lose that convenience.

I wanted to offer 16 million colors, 3D without rendering and animations dynamically prepared for any changes. At first, I was not sure how I was going to do it, but I knew I could do it with the Video Toaster and the Flyer.

### Paving the Wave

First, I scanned The Cup of Noodles logo, Nissin Foods logo and all of the text into the computer from black and white art work. Then I made all necessary adjustments to the image in ImageFX, including removing isolated pixels, cleaning up rough edges, adjusting contrast and brightness, adding color, etc. I made sure the image stretched evenly across the entire screen, so that when I wrapped it around a 3D object, it would meet from end-to-end without a seam. I saved the final image as CupLabel.iff.

It was now time to make a cup in

LightWave's Modeler. By examining the blueprint of the sign, I noticed the only outstanding feature of the cup is the lip. The rest of the cup is symmetrical, which was a piece of cake. First, I created a small disc in the upper left quadrant of the left view. I then pressed the (k) key eliminating the polygon that represented the disc and left a circle of free standing points. I next selected 3 out of 16 points in the lower left section of the circle and cut them out. Under the Polygon Menu, I clicked the create Points tool and created two points in the lower left quadrant of the left view, below the circle of points. The points were made very close to each other and offset toward the center (Y-axis).

Before I turned all these points into a polygon, I clicked the Point selection button, and then on an





**"First I took two major factors into consideration: Time and Budget. These two factors always affect the level of quality in any job. It would be wonderful to do a fly-through over the Times Square area, but I think it would be overkill for this project."**

empty space off to the side. This action deselected all the points. Next, I went into the Tools Menu and clicked the Set Value button. A requester popped up. I selected X-axis because the points I created in the left view were created along the X-axis. I left the default value of 0 m. I clicked OK. This action assured me that the points were in perfect alignment along X-axis. If they were not aligned before I connected the points, I would get a non-planar polygon. Now that all the points were created and aligned, I selected all of them

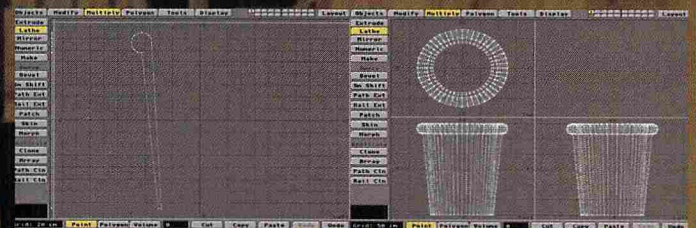


Figure 1

clockwise and pressed the (p) key on my keyboard. This turned my selected points into a single polygon.

In the Multiply Menu, I selected the Lathe tool. Then I clicked the Numeric button (n) to open the Lathe's Numeric requester. All the default settings looked fine, except two. I increased the amount of Sides from 16 to 48 because I wanted the cup to look as smooth as possible. I also wanted the cup lathed along the Y-axis (center of the cup object), so I changed the default setting of X-axis to Y-axis. I clicked OK.

On the modeler screen, I saw a highlighted line along the Y-axis. This meant Lathe was ready. I pressed the Return key and a cup was instantly lathed out of the custom polygon I made earlier (Figure 1). I then selected the polygons that made up the lip of the cup and gave them a surface



name. The polygons for the body of the cup were given a different surface name. This is where I was going to apply my CupLabel.iff image as a Cylindrical Image Map in Layout. I saved the cup object as NissinCup.lwo.

In Layout, under the Images Menu, I loaded an image of one storyboard frame that I scanned into the computer and sized to 752 x 480. This frame had the approved composition of the Nissin signage. I wanted to use this as my template to help align the cup object in Layout. Next, I selected the storyboard frame as a background image and made sure BG Image was selected under the Options Menu. I also made sure I was in Camera view in Layout. Now the image appeared in the Layout background, allowing me to align my cup object against the storyboard frame.

Once satisfied with the alignment, I created a keyframe for the cup object at frame 0. I made sure CupLabel.iff was applied as a cylindrical color texture map to my Nissin Cup object and moved the lighting around to my satisfaction. Before rendering, I removed the background template and made sure the background was set to a Backdrop Color of 0,0,0. I also made sure the Camera settings were set for Medium Resolution, Pixel Aspect Ratio of D2 (NTSC) and Medium antialiasing (Figure 2). I saved the rendered image as an RGB 24-bit IFF and an Alpha Image 8-bit IFF. I was now done with the Lightwave portion of my job. I was ready to prep my images for use with the Toaster's luma keyer and the Art Card Key effect.

### Adding Visual Elements

In addition to the LightWave rendered images, I added other visual elements within those images required on the Nissin signage. In ImageFX, I loaded one of the scanned images and cut out a brush (Scissors icon) of the Nissin half circle logo. I saved it as a brush. Then, I loaded the storyboard frame into the swap buffer, and loaded the Lightwave RGB rendered image into the main buffer.

This is where ImageFX's light table feature comes in handy. By using the light table feature, I can take my brush of the Nissin Logo and line the brush up with the Storyboard template. Instead of stamping it down on the template, it was stamped down on the LightWave

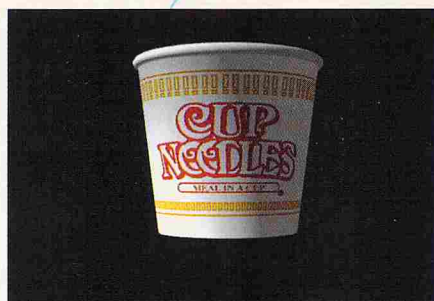


Figure 2

***"Now comes the time consuming part where you will actually sit and draw. Depending on what animation paint program you are using on your Amiga, the procedures may be slightly different. I used Deluxe Paint IV..."***

rendered image. I saved this final image as a Toaster Framestore. Next I switched to the swap buffer and loaded the LightWave Alpha rendered image. Because the light table is still activated, I can see the RGB image I just created in the background. I took my brush of the logo, aligned it and stamped it down in color mode (Drawing Options) with white selected from the palette bar. This created a perfect white shape of my brush onto the Alpha image (Figure 3). I saved this image as a Framestore.

### Animation: 2D Style

The procedure I've described thus far



Figure 3

is the easy part. Now comes the time-consuming section where you will actually sit and draw. Depending on what animation paint program you are using on your Amiga, the procedures may be slightly different. I used DeluxePaint IV and have been using it since I first got an Amiga. I set the Screen Format to: Hi Res Laced 640 x 400, GFX Overscan and 8 colors. Once I was in DeluxePaint's main screen, I arranged the color palette so that blue would be the background color. I did this by entering the color mixer and changing the first color register to blue instead of the default black. At this point, I also changed all the other colors to my liking. Now the background was blue and so was the overscanned border, which was great because none of the animation would leave the edge of the frame. It would all take place within a small rectangle in the center. With this resolution and amount of colors, the animation should run close to real-time.

Keying the LightWave image of the cup over a DeluxePaint animation was the next step. I wanted to maintain the 3D look of the cup and show animated patterns on a 2D background. Before starting, I had to make sure that what I drew in my paint program would align properly with my 3D image. I took the storyboard template and cropped it to 640 x 400 from the center. By cropping, I could preserve the aspect ratio of the image that was also used as a template in LightWave and ImageFX. I loaded the template into the spare page of DeluxePaint. DeluxePaint also has a light table feature. Now I can see the spare page in the background as I draw my rectangular box in the foreground, matching the dimensions of the sign in the template. The animation was next. Most of the paint programs on the Amiga, like DeluxePaint or Brilliance, are very versatile. You can do one thing several different ways with more or less steps. Both programs offer animbrushes, spare pages, light table, stencil and move functions. They also have animation controls for forward, backward, ping-pong and looping.

All these features were used in the creation of the lighting sequences. I first thought, why should I go through all this work when there is probably a program out there that can generate these wipe patterns instantly? I looked for it, but it does not exist for a custom job



like this. The patterns were unique and timing was crucial. DeluxePaint was the only solution as I could genlock an overscanned signal to videotape or to another source with little degradation.

## Genlocking

If you own an Amiga system with the Toaster, you can genlock your 2D animation to videotape using the Toaster's Genlock. After starting the Toaster software, you can jump back to the Workbench (left Amiga + m) and seek out the Toaster's Genlock control panel. It is located at Newtek:Programs/Utilities. By default, your hot key is Ctrl + F7 to send the RGB signal of the Amiga's Workbench through Program Out of the Toaster. Now I could load my animations one at a time and play them out to videotape. This is when I decided the speed and direction of the animation by using DeluxePaint's keyboard shortcuts. The keyboard shortcuts allowed me to keep the screen clear of any graphical user interface (GUI). Imagine your clients looking at drawing tools on the right side of their animation. This is not highly recommended. With a second Toaster system, you could run the signal straight to your Flyer, saving a generation loss in video quality, which I did.

## Art Card Key Effect

Now I was ready to marry my 3D image to my DeluxePaint animations and save them as Flyer clips. First I brought up the Project/Files view and dragged and dropped the two Framestores I made earlier from the Files window to the Project window. I then entered the Effects folder in the Files window and located the Art Card Key icon (keyhole icon). I dragged and dropped the icon into the Project window next to the two Framestores. I switched back to Project/Switcher view and loaded my Framestore of the 3D cup with the Nissin logo into DV2. I made sure I displayed DV2 on the Main bus before loading my alpha Framestore into DV1. I selected Input 1 in the Preview bus so my animations, either from videotape or from a genlock signal, are fed through the Toaster. In the Switcher panel, under Superimpose, I selected DV1 (alpha Framestore) and the black box button. This button keys out anything in black areas of the alpha Framestore but leave any image intact from DV2 in the white areas.

If I were to avoid the Art Card Key effect and just superimpose the cup

image, keying out the black, I would stumble into problems. Darker areas of my cup image will be affected by luma keying noise. Also, the antialiased edges of the cup image would get noise. The Art Card Key effect gave me the professional results my clients expect. It created a clean cut around the image, preserving all the brightness and contrast without noise. To activate the Art Card Key, I double-clicked the icon in the Project window and slowly pulled down the T-bar. I saw the video signal in Input 1 (Preview bus) show through the black (Figure 4).

## Making Flyer Clips With Art Card Effect Activated

While the Art Card Key effect is acti-

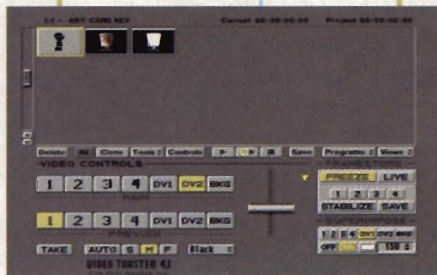


Figure 4

vated, I could digitize the effect it was creating through the Switcher. All I did was press the tilde key (~) to access the Flyer's abbreviated Record panel. At this point, I pressed the space bar to begin recording all the animations. When I was done, I pressed the space bar again to stop recording. I then cut my large recorded clip into smaller clips and named them appropriately. You may be wondering why I used Framestores instead of Flyer stills to do the Art Card Key effect. Flyer stills will simply not work because you are using Input 3 and 4 to digitize your footage to the Flyer drives. This is where your Flyer stills would be displayed if they were loaded. Framestores are using the digital buffers (DV1 and DV2) of the Toaster, leaving Inputs 3 and 4 free for the Flyer to use.

## Putting Together A Show

In my personal opinion, no system comes close to what the Flyer did for this project. I have clients who work with Media 100s, Speed Razor Machs and Avids. None can perform the Art Card Key effect in real-time or genlock computer signals to videotape. On top of it all, none of them can cut as fast.

I started editing with the original storyboard in front of me. In the

Project/Files view, I dragged and dropped Flyer clips of animations relating to the storyboard in sequence. Next, I adjusted the in-points and timing of each Flyer clip. In the written storyboards, it is mentioned that some lighting effects repeat 3 to 8 times. Instead of drawing the frames 3 or 8 times, the artist wrote down what to expect. That is one smart cookie, but so is the Flyer. By holding down the shift key and selecting all the Flyer clips involved in the repeating sequence, I was able to click the Clone button 3 times to have that sequence repeat 3 times. I went on to do this in several other sequences (Figure 5).

Now came the critical test. The primary client showed up with some concern written on his face. He needed to change the length of some sequences before showing the animation to his client the next day! I could have given him a hard time and told him it would



Figure 5

cost more or take another day, but I just could not resist showing off the Flyer. He sat down and I made the changes in less than five minutes. He was pleased and amazed. Since that day, he has been keeping me in business by offering this service to many of his clients.

Most of the techniques I used in this project came from the interaction I have with other users at trade shows, Toaster/Lightwave user groups and the internet. Did I forget to mention *Video Toaster User* and *LIGHTWAVEPRO*? I will never forget them. After all, they have guided me for years.



*Alex Lugones founded Wildseed 3D/Interactive in 1992. He has a consortium of talented artists from different backgrounds to provide high-quality 3D animations and effects for television, corporate clients, web sites and interactive multimedia. He can be reached at wildseed@mail.idt.net or see the Web site at: http://budson.idt.net/~wildseed.*



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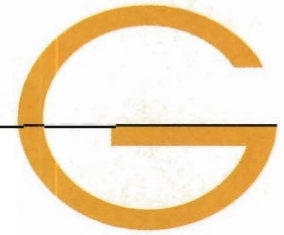
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BY JOHN JACKMAN



The simple trumpet theme known the world over echoed through Atlanta. Lights played over the familiar linked rings. Athletes of every nation stood together as Mohammed Ali lit the Olympic torch—and to digitally edit these moments of glory, the Video Toaster Flyer was there! In the midst of hundreds of thousands dollars worth of computer and video equipment at the Olympics Southern International Press Center, a full-blown Flyer system was in action, cranking out broadcast video for international news teams and producers.

The presence of the Flyer was no accident. It was the brainstorm of Toaster user Keith Cagle, owner of Virtual Reality Productions in Marietta, GA. Cagle, a long-time Amiga enthusiast, was contracted to set up and maintain the computer and video systems at the Southern International Press Center, designed to accommodate world wide press members who did not have their own production gear on site. He was contacted just two weeks before the torch lighting with one of those dream projects that could easily turn into a nightmare.

### The Impossible Dream

The Virtual Reality Productions team (Keith Cagle, Keith Askins, and Eros Canabrava) was presented with a center filled with CTX laptops, HP desktops, and 17" and 20" monitors which all had to be integrated into a network accessing a T1 telephone line. On the video side, Panasonic had contributed a virtual truckload of dream gear: switchers, SuperCams, DVC camcorders, TBC's, edit controllers, BetaCam decks. There was an Avid for non-linear editing—but no Amigas, and not a Toaster to be seen. So Cagle did the only thing a decent, self-respecting Toaster user could do. He volunteered his own system to add a little class to the scene!

With only three days to go before the opening ceremonies, Cagle had his trusty A2500-040 Toaster system installed in the Press Center edit suite. But he wanted to see if he could get a little speedier processor and more memory to show off the system even more, so he called June Lavenberg at AntiGravity Products.

"After we talked for a few minutes," Cagle says, "June and I realized the huge opportunity this could be for the

visibility of the Amiga and the Toaster." So Lavenberg set the wheels in motion to bring together a host of companies to place several Flyer systems on site before the opening of the Olympics. NewTek, Amiga Technologies, VisCorp, QuikPak, MicroPace, DPS, and other companies had to be brought on board in the space of less than twenty-four hours. Those who have assembled the pieces of a complete Flyer suite can imagine the number of phone calls that had to be made!

### Pulling Together

Lavenberg worked the phone for hours and got a green light at every company. "They all saw what a great opportunity it was," she said. "Everyone pulled together, just like the Olympics themselves." This event was the first time that VisCorp and NewTek had worked together on a public project, Lavenberg stated.

Jason Compton at VisCorp contacted Bob Wolter at MicroPace to supply monitors while Dave Ziembicki at QuikPak arranged shipment of the base Amiga 4000Ts. Donetta Coulbach and Jackie Russell, both from NewTek, put together boxes of Toaster and Flyer boards and Brad Nogar at DPS synced up shipment of TBC-IVs to clean up the signals.

"In my 15 years in the industry," said Cagle, "I have never seen companies come together in this magnitude—not to mention the time frame we were working in!" Cagle attributes a lot of the credit to June Lavenberg's hard work. "I thought I was good," he said, "but without June and AntiGravity Products this project would never have happened!"

Others involved in the effort included Tim Matheny at GDI, who supplied the hard drives, Tracy Carswell of Digital Media Technologies, Kelly Lunsford of Intergraph, Don Hicks of Amazing Amiga Magazine, and Chip Henson of Henson Productions. Finally, VisCorp mounted a special "Salute to the Olympics" Web page at [www.vistv.com/newsitems/news6722.html](http://www.vistv.com/newsitems/news6722.html).

The next morning, six Amiga 4000 towers were shipped from QuikPak, including one with the new 68060 accelerator. This board, now shipping as an option on new Amigas, nearly quadrupled the processing speed over the stock 68040-25 processor. The accelerator board





# OLD

**VR Productions**

**Wins With the**



**Flyer and Amiga**



uses up to 128 MB of DRAM, and can use the faster EDO RAM now available for higher performance. Bob "Bubba" Hoffman, from NewTek, hopped a jet to Atlanta bearing with him the Toaster and Flyer boards for the Amiga systems. Hoffman, Cagle, and Askins worked through the night assembling the systems into functioning Flyer units. Their sleepless hours paid off because by opening day, the international press found a functioning full-blown Flyer system with an 060 processor, 32 MB of RAM, two 9 GB video drives and two 1 GB audio drives, plus a complete backup system.

### **The Flyer Steals the Show**

At first, the Flyer sat off to the side, pretty much ignored. But then the inevitable happened: one of the other edit systems began to have problems, and Cagle suggested that the frustrated editor try the Flyer.

***"Lavenberg worked the phone for hours and got a green light at every company.***

***"They all saw what a great opportunity it was," she said.***

***"Everyone pulled together, just like the Olympics themselves."***



Journalists from Africa work to get their Olympic stories home in the press room. Photo by Bob Hoffman.



The editing room where the Flyers were set up. Photo by Hoffman.

"The Toaster just sat there and it was flawless," said Keith. "Soon we had several of the editors that knew the Toaster and that was all it took." From that point on the Flyer was used to edit footage for networks around the world, from TV-5 in Africa and the Indonesian television network, to several stations in France. A whole host of journalists, visitors, athletes, and television producers got to see the Flyer in action. Before long, the Flyer system was at the middle of the press center, with all the other equipment running through it! The team set up a total of three complete systems, two on site and a third at Virtual Reality Productions office, where segments



The Press Center was the center of activity.

of musical performances by Bob Dylan and others were edited.

Hoffman, who had put in many hours assembling the Flyers under immense time pressure, returned a few days later as a civilian just watching the games. Vacation time or not, he stopped in to check out his babies at the press center. "It

***"It was a complete madhouse," Hoffman says. "There were incredible numbers of people in there editing at all weird hours of day and night." But while there were numerous problems with several of the high-end editing systems, the Flyers performed without a glitch, day in and day out."***

was a complete madhouse," Hoffman says. "There were incredible numbers of people in there editing at all weird hours of day and night." But while there were numerous problems with several of the high-end editing systems, the Flyers performed without a glitch, day in and day out.

By the end of the Olympics, the Flyers were so popular with the press that the Atlanta Committee for the Olympic Games (ACOG) contact-





The special Olympics were held in the same Atlanta facility only days later.

ed NewTek to ask if they could remain in place for the Special Olympics, held just days later in the same facility. Of course NewTek and the other companies agreed, so the Flyers helped document the heroic efforts of the disabled athletes as well.

Unfortunately, shortly after the end of the Olympic Games, tragedy struck the Cagle family when Keith's father died unexpectedly. While the grief of his personal loss has weighed on him heavily, he credits his father with his success in the video industry and at the Olympics.

"He was the driving force that gave me the strength to get back into this wonderful field," he said. "I thank God that he lived to see it happen; without him I wouldn't have gotten involved." Amiga, Toaster, and Flyer lovers can be thankful for the drive that Keith's father passed on to him, helping him pull off this impressive event.

In all, the presence of the Amiga and NewTek's Flyer editing system at the Olympics was a great success. Many producers and journalists who regarded the Toaster as a toy or who knew little about it left the Olympics with a new respect for the system. For the fast-paced reliable editing which was needed, the system did yeoman duty around the clock in an environment more hectic than most newsrooms ever get. For most editors it proved easier to use, with quicker access to stock visual tools than any of the other systems in the room. Some technology, such as IBM's much-ballyhooed Olympic scoring system fell far short of expectations; but the Amiga/Toaster Flyer combination far exceeded the expectations of the international press who attended!



The Olympics brought the world and the world's technology together.

## The Amiga and the Olympics

It is fitting that the Amiga should be present at the 1996 Olympics, because it played a vital role in bringing the Olympic Games to Atlanta in the first place. Long before the Olympic Committee was seriously considering sites for the Centennial games, Atlanta Olympics organizer Billy Payne and others were busy paving the way for one of the greatest events in Atlanta's history.

He contacted the computer research department at Georgia Tech University with an idea: Put together a computerized 3D "tour" of the planned Olympic Village to give the Committee members a feel for what it would really be like. Remember, this was several

years ago, when most people hadn't even heard of virtual reality.

A team of students and researchers at the University made the dream a reality using a bank of Amiga 2000s and custom code. They created two separate displays—one an interactive tour of Olympic Venues, and the other a tour of the proposed Olympic Village. In the hot competition for the site selection, the Amiga-based displays were what tipped the Committee's decision to go with Atlanta. An early Gold Medal for the Amiga!

VTU

John Jackman is Director of Video Ministries for the Moravian Church, and graphics/animation consultant for Illumination Learning Systems. He can be reached on-line at

**"In the hot competition for the site selection, the Amiga-based displays were what tipped the Committee's decision to go with Atlanta."**

102623.1457@compuserve.com.



# TOASTER TROUBLESHOOTING



B Y C H U C K

B A K E R

Part one of this article detailed several problems that might occur when starting up a computer system equipped with a Video Toaster, or when starting the Toaster itself. With this article I will continue with start-up problems for the Toaster, and will also discuss several problems that may occur during operation of the Toaster.

The following are error messages that may occur when you attempt to run the Video Toaster software.

## Problem 8

*"Could not obtain Switcher.Font."*

- The Switcher font has gone missing or corrupt from the system Fonts directory, or is not the correct version for the Switcher version that is being run. In most circumstances, you can copy the Fonts directory from disk 1 of a VT software install set (2.0 or 3.0) to SYS:fonts. For 4.1 software, copy from the directory System/Fonts on the CD-ROM.

- For Toaster 3.x users who have just acquired ToasterLink, the 1.0 version of ToasterLink was recently installed and has overwritten 3.x Toaster software with an older version of the Switcher. Be sure to get the current ver-

sion of ToasterLink from NewTek and re-install the software.

## Problem 9

*"Could not open Toaster Window."*

- This indicates that the Requester.Font could not be found in SYS:Fonts. Copy this from Disk 1 of your install set, or from the Toaster directory.

## Problem 10

*"Could not obtain CGInterface.font."*

- The CGInterface font has gone missing or corrupt from Sys:Fonts. Copy the Fonts directory from disk one of a Toaster software install set to SYS:fonts.

## Problem 11

*Could not load and initialize CG.*

Two problems are possible sources for this error.

- The CGInterface font missing from Sys:Fonts. Copy Install disk one Fonts directory to SYS:Fonts

- The CG executable file decompressed incorrectly during install. Check file size.

# PART TWO



1.0: 144328\* bytes  
2.0: 149936 bytes  
3.1: 292872 bytes  
3.5: 297024 bytes

If the CG file size is incorrect, re-install the software or copy CG from another machine. I have not listed the 3.0 file size for CG, since 3.1 is a free update to that software. Users who have 3.0, but never received 3.1, should contact NewTek customer service for the update. Toaster owners who have not registered their Toaster (or their purchase of 3.0, if they bought the Toaster with version 2.0 software) will need to provide a registration card or proof of purchase.

#### Problem 12

*"Could not read Project from [device] Retry or cancel to Quit."*

- The last active project has become corrupted. Click Cancel and the next requester will ask "Load the Default Project?" Click OK.

#### Problem 13

*"Project was not found on [device] Retry or Cancel to Quit."*

- There are two possible sources for this error message. The last active project was stored on floppy or other removable media, and the disk is not currently mounted. Click Cancel, and the next requester will ask "Load the Default Project?" Click OK.

#### Problem 14

*When the Toaster software is run, the system crashes and reboots, and comes up in a 640 x 200 screen mode. If you run the Toaster then, it loads and runs without a problem.*

- The system was not in an NTSC-compatible mode when the software was run. The Toaster attempts to take control of the graphics hardware and drive the video timing, which works properly if the system is already in an NTSC mode. If the system is in a non-NTSC mode, however, such as DBLNTSC or productivity modes, then when the Toaster forces the graphics timing to NTSC mode, the system crashes and comes back up in the NTSC mode.

- Always set the system to an NTSC screen mode before attempting to run the Toaster software. Some failures will

occur during operation of the Toaster. As with start-up errors, these may represent either a hardware failure, or a problem with the software.

#### Problem 15

*The Toaster software is operating normally, when suddenly the system crashes, and the output video becomes a black screen with diagonal dashed white lines. Then, if you reboot the system when you run the Toaster software, the system crashes with the same resulting output on video.*

- I have not mentioned previously

***"...if you have both the Toaster host computer and a video deck which has a grounded power cord plugged into a grounded surge strip, and you run a video cable from the Toaster to the deck, you have created a ground loop, meaning simply that the chassis ground of the Toaster host computer and the deck are connected twice."***

that the number to call for an RMA is (913) 228-8282. That is what you should do when you encounter this symptom.

#### Problem 16

*Toaster software runs but there is a tear across the middle of the program and preview outputs and a jittery look to the interface on the RGB monitor. Program and preview outputs are completely unstable, and there is a tear across the middle of the RGB interface screen.*

- This is a sign that the Toaster Center Frequency adjustment is marginal. You should adjust the Center Frequency, as described in the sidebar ("Toaster Troubleshooting Part One,"

Dec. VTU.)

#### Problem 17

*The Toaster runs fine when first powered up, but gradually loses sync on the outputs.*

There are two possible sources for this problem.

- The Center Frequency adjustment is marginal, and as the Toaster warms up goes unstable. Do the CF adjustment.

- A component which affects Center Frequency is weakened, and does not operate properly when hot. If doing the CF adjustment does not correct the problem, you will need to RMA the Toaster.

#### Problem 18

*The Toaster does not sync well when first powered up, but stabilizes after it has warmed up.*

- Problem sources are similar to those in Problem 16, so a CF adjustment should be done. If the problem is not corrected by doing so, then you should contact NewTek for RMA and repair. In this case, a component may not work properly until hot, or more likely there is a connection that is not stable until the board is hot ("cold solder joint" problem).

#### Problem 19

*Preview is ghosting on Program output.*

- Also known as "crosstalk," this has several possible causes. The most common cause of crosstalk is groundloops among the connections between the video equipment in the suite. As an example, if you have both the Toaster host computer and a video deck which has a grounded power cord plugged into a grounded surge strip, and run a video cable from the Toaster to the deck, you have created a ground loop, meaning simply that the chassis ground of the Toaster host computer and the chassis ground of the deck are connected twice. One connection is via the power cords which are connected into the power strip, and one connection is via the ground built into the video cable. Current can then travel in a circle among the components. More important, this loop can act as an antenna and pick up RF signals from the environment.



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# Time Saving Tools for the Flyer Professional

## Render FX - \$129.95\*

Imagine turning an entire project into a single clip. Have you ever wanted to key a CG over a transition? Ever wished there was zero-load time for animated wipes, CGs, or DVEs? Do you ever have a need for effect envelopes?

What if we told you we could bring back all of those cool tricks you used to do with the Toaster before upgrading to the Flyer. With Render FX, you can!

Working closely with the Traz team at NewTek, ProWave, Inc. has developed a way to transform any toaster effect into a single Flyer Clip. Once the transition is a clip, you can use ProMix Tools to create audio cross-fades and join these clips into a single A/V clip. Not Bad?

What this means is you will never see that "not enough time to load effect" message again. In fact, you can even layer effects. Never again will you have to record your Flyer clips with your CGs pre-keyed in order to run them under an effect. We've also built an envelope editor for effects and transitions. With this you can execute a partial transition and return back to the original clip. This means that those 20% layered dissolves you used to do manually with the T-Bar will once again be at your fingertips. Layering video has never been so easy.

As always we are working with the other third party developers to integrate our tools into their programs such as Co-Pilot, Control Tower, Wipe Studio, and Fly Effects. ProWave's philosophy is to seamlessly integrate our tools into the Flyer interface and other third party products, so you don't have to learn yet another program. We'll provide the solution, you supply the creativity.

## ProMix - \$99.95

With ProMix, you'll never run out of audio tracks again. ProMix will mix your selected audio clips to a single clip, while preserving audio levels, pans, balance, fades, and timing. You can layer, and layer, and layer audio with perfect digital accuracy. ProMix is a set of four audio tools. In addition to mixing you can: add/replace audio on a video clip or animation; replace/mix audio from one video clip to another—perfect for those multiple camera shoots; join video clips or audio clips to make a single clip; or insert a section of audio into an existing clip without disturbing the audio before or after the insert. Co-Pilot Audio users will benefit by making extremely complex audio sequences just one clip. We also give you all the functionality of Audio Black Box free.

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Please Circle your reader service card and mail it in so we can keep you up to date on the latest ProWave products. We've also joined efforts with OzWare, Visual Inspirations, and Dimension Technologies to integrate our tools into your favorite 3rd party programs.

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# Render FX



*I found this to be a "must have" product. In every single one of my projects I have used ProMix."*

**-Joe Tracy, Video Toaster User Editor**

*"I can't believe how I edited without this. You've definitely unleashed my creativity."*

**-Brian Jansen, Universal Video Productions**

*"It's amazing that you've integrated this right into the Flyer. There's nothing new to learn."*

**-Don Ballance, NewTek, Inc.**





• Since the video and audio cabling can carry out the task of joining the chassis grounds among the connected equipment, it is best to eliminate ground loops by only connecting the Toaster computer system to ground via the power cord, and connecting all other equipment to power strips using two-prong adapters.

• Bad cabling can also cause this problem, and especially in combination with ground loops. Poorly shielded cables or low quality connectors can leak signals and can pick up signals, and since the program and preview outputs are right next to each other, bad cabling will show up right away as

and everything else into the ungrounded strip. See if the problem is still present.

If so, either the Toaster or the host computer has a problem. If not, then try the other components one at a time, plugged into the grounded strip, along the Toaster system. When you find the one that produces the problem, then you know which unit needs to be serviced.

As a general note on Problems 19 and 20: It is critical to have a clean ground on Toaster systems. Input on the Toaster BNCs goes directly to an amplifying transistor, which uses the ground as a reference. Any stray signal

ferences to SCSI and default parameters unchanged. They did choose as the standard drive to ship with the system the Seagate 3144AT, which seems to be the only IDE drive in existence capable of using the default SCSI MaxTransfer figure, 0xfffff. A few A2000/A3000 owners may encounter this if they use a product such as the DataFlyer IDE controller or the early GVP 68030 boards with a built-in IDE controller.

• Change the Maxtransfer setting. For most drives, a figure of 0x1fe00 seems to work. This setting can be adjusted without requiring a reformat of the drive and without loss of data.

## Problem 22

*You attempt to load Modeler and get the message, "Error 308 Modeler."*

• The math libraries are corrupted. Replace the Math libraries in the LIBS: drawer. These must be copied from your Amiga WorkBench floppy disk.

***"As with any complex hardware and software product, there are any number of problems which the user may encounter, but herein a selection of the most common have been covered.***

crosstalk in the channels.

• A faulty Toaster card (I've only known of a couple of cases over the years where the card was a fault in this problem). Contact NewTek for an RMA, if you have eliminated ground-loops and cabling as issues.

## Problem 20

*Toaster output is "dirty" in some way, strange ghosting (but not crosstalk) or noise in the video.*

Possible sources are essentially the same culprits as above, with an addition.

- Eliminate ground loops.
- Use high-quality cabling.
- Check for ground faults in attached equipment. A component with an electronic problem may be injecting signal or voltage into its chassis ground, which then affects other components in the system, including the Toaster. This can cause a wide variety of problems, including luminance problems with output through the Toaster, and sync problems. If all equipment is using grounded power cords, you can test for this kind of failure by using two power strips, one plugged into the outlet with a two-prong adapter, the other plugged in grounded. Plug the Toaster host computer into the grounded power strip,

***This may save you a call to NewTek in many instances, or in some cases will help you to know immediately upon encountering a certain difficulty that you need to make such a call."***

in the ground will therefore affect the input signal being amplified, and this will show up in a waveform monitor. If the tops of the bars on a waveform are clean and flat, then ground is fine. If they are jaggy, then there is signal or noise in the ground.

## Problem 21

*On attempting to load a Framestore, only one quarter of the image loads.*

This problem will occur on an Amiga system using IDE drives, and on which the IDE drives have the wrong Maxtransfer setting. MaxTransfer is not a speed setting, but a size setting, and describes what the largest size should be for a chunk of data to be exchanged between the system and the drive. This problem became common when the A4000 came into service, with its built-in IDE controller. Commodore modified the drive configuration program to use the IDE controller, but left many of the original ref-

As with any complex hardware and software product, there are any number of problems which the user may encounter, but herein a selection of the most common have been covered. This may save you a call to NewTek in many instances, or in some cases will help you to know immediately upon encountering a certain difficulty that you need to make such a call.

NewTek's technical support department is involved in creating an online database on the Technical Support BBS, which will cover these and many other problems users may encounter with the Video Toaster, the Flyer, and LightWave 3D. The BBS is accessible both by modem, at (913) 271-9299, and by Internet, at [bbs.newtek.com](http://bbs.newtek.com). For Internet access, you must use a telnet client program. The NewTek Web page, at <http://www.newtek.com>, has information about how to access and use the BBS.



# Multimedia Backdrops

## Don't Expect Light-ROM Quality

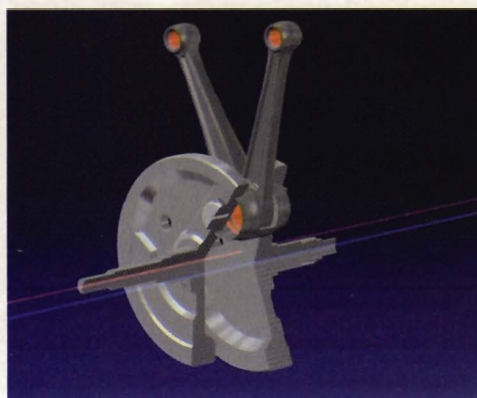
by Patrik Beck

**F**rom the people who brought you the very popular and useful Light-ROM series comes a new collection aimed at the clip-art user, Multimedia Backdrops. Multimedia Backdrops is a CD containing 100 different images in various formats to use in desktop video and multimedia applications. Each image is in two resolutions, the 752 x 480 typical for NTSC applications, and 768 x 576 for the PAL. Each resolution is in three different formats; Amiga IFF, Targa, and Tiff. Doing the math, each image is on the disk no less than six times (IFF, Targa, and Tiff on PAL and NTSC), not counting the thumbnails on the directory screens.

If that sounds a little like padding, I would agree. If the 100 images were all high quality, killer backdrops, this might be a good deal. I am sad to say that many of the images presented on this disk are not up to the quality that is required for professional video work. It would appear that most of the images were gathered off the internet and from bulletin boards without much discretion. While there are a few usable images on the disk, most of them range from below average to incredibly bad. Strangest of all, most of the images on the Multimedia Backdrops CD that are usable are also on the Light-ROM disks! In fact, the Light-ROM disks actually contain more useable images than there are on the Multimedia disk.

### Test Ride

I was very excited when I first received the Multimedia Backdrops package. I have made thousands of dollars and saved hundreds of hours by using the material provided on the Light-ROM 2 CD. The first thing I did was load up the very handy index screens that provided thumbnail size images of the backgrounds, five screens with 20 thumbnails to a screen. Paging through the screens, I noticed that many of them looked familiar. I check my Light-ROM index (permanently transferred to my PAR drive for instant easy reference) and sure enough, almost a third of the images existed on both CDs! Taking a look at some of the new images was also a shock. I cannot believe that the people who did such fine work before would fill a CD with such worthless material. They might be acceptable if all you are doing is playing around and wrapping them on random spheres, but most of the clients I have would be very upset if they saw graphics of this low quality show up in their productions.



*"The most offensive image of all was a very bad scan of the flag of the United States. It was out of focus, disproportionate in size, and had obvious creases and dirt from the original photo."*

Most of the images consist of bad scans and amateur artwork. Many of the pictures show evidence of multiple JPEG compressions, particularly the marble and brick images. I thought that perhaps it was the unforgiving nature of the computer monitor, but even when viewed on a consumer TV, JPEG artifacts were still distractingly visible. There were also some images that had obvious pixels, the result of a smaller image being enlarged to the required size. While pixelating an image can be aesthetically pleasing, it was not here. Some of the scans must have been from magazines because the

paper grain is clearly seen. In fairness, I sought out a second opinion. The results were the same. Maybe 20 or 30 of the images could be useful, but most could not.

The most offensive image of all was a very bad scan of the flag of the United States. It was out of focus, disproportionate in size, and had obvious creases and dirt from the original photo.

Continued on page 43



# Light-Rom Gold

## LightWave Resources Abound

by Dan Ablan

**L**et's say you go out and buy a big fancy computer system. That client that owed you money finally paid up after your lawyer made a call. So now you've got the cash to get the LightWave 3D workstation you've always dreamed about. *All right*, let's just say you have your Toaster and you've finally saved enough cash to upgrade to the latest version of LightWave. Now what? When you buy a computer, it's so tempting to buy additional software, games, peripherals and more. But many of those add-ons are not always that useful. The same deal applies to LightWave when it comes to add-ons. But, there is one add on that any LightWave user with a CD-ROM will truly benefit from—Light-ROM Gold.

Light-ROM Gold is the best of Light-ROM issues 1, 2, and 3 direct from Graphic Detail. This CD comes jam-packed with over 6,000 LightWave objects and scene files. Because LightWave files work on all platforms, Light-ROM Gold can be used with any version of LightWave you happen to be running. With so much talk about LightWave 5.0, and with so many new add-ons for that particular version, LightWave 3.0 and 4.0 users are sometimes left behind.

Light-ROM Gold was created for those who did not purchase Light-ROM 3. Each issue of Light-ROM is created based upon the previous issue of Light-ROM. The first Light-ROM release had 2,300 LightWave objects, the second release had 3,700 objects, while Light-ROM 3 had 6,000 objects. Light-ROM 4 starts over with all new objects not found on Light-ROM Gold.

### What's On It?

One great thing about Light-ROM Gold is that for \$39.95, you really get your money's worth. Here's a list of the directories found on this powerhouse CD:

*Anatomy, Animals, Aviation, Botany, Building, Clocks, Computers, Demos, Electronics, Environment, Furniture,*

*FX, Globe, Grocery, Holidays, Household, Lamps, Logos, Maps, Misc., Music, Phone, Robots, Ships, Showcase, Space, Sports, Tools, Toys, Tutorial, Vehicles, Video, and Weapons.*

More directories can be found within each of these directories. For example, in the Misc. directory, there are 36 more directories with LightWave objects and scenes of anything from Campfires, to Money, to Weddings. I particularly found Tree Kit in the Botany directory helpful. Building plants and trees in LightWave is somewhat time consuming, and a quick resource for a foliage filler in my scenes is

a nice resource to have. The Anatomy directory is nice bundle within itself, containing a few characters, skeletal models, and something every LightWave animator should have—a 3D model of Mark Thompson's head. If only I could have *my* head scanned!

Anyway, the Light-ROM Gold CD is well worth it's \$39.95 price. You may easily find an object that exactly fits your need for a current project. Additionally, Light-ROM Gold ships with a plug-in directory that has nearly a dozen plug-ins ready to be added to your LightWave system. Many of these plug-ins can be downloaded from the Internet, but many LightWave users don't have direct access to on-line services, so this portion of the CD is an even greater value. One plug-in for example, instantly makes Gears in LightWave Modeler. Simply load and run the plug-in to create an interlocking gear to add to your next industrial animation. Another plug-in which is great on the Amiga is included on the CD for PC LightWaver's, MartionPlumber. This handy plug-in creates weird tubes almost instantly. This is great for those dingy warehouse animations, or spaceship exteriors.

All of the LightWave objects and scene files are represented with thumbnail renderings for easy previewing. These visual indexes come in IFF, TGA, JPG, and TIF formats for viewing on just about any system. The categories of LightWave Objects are wide ranging, and Graphic Detail has done a fine job of compiling a very useful CD-ROM.

***"Additionally, Light-ROM***

***Gold ships with a plug-in***

***directory that has nearly***

***a dozen plug-ins ready to***

***be added to your***

***LightWave system."***



## Who Needs It?

Putting aside my disappointment in receiving a product to review that is of absolutely no use to me, I will do my best to find something good to say about it. There are three reasons why this collection might be of use to you:

1. You're working on a multi-media, multi-platform, multi-national project, like a global kiosk, and you need a number of identical backgrounds in both PAL and NTSC in different formats.

2. You have a need to emulate the look of really bad public access cable and do not have the stomach for shooting your own gaudy low-rent backgrounds.

3. Your Frisbee is on the roof or you're running low on cat toys.

It does work well on both my Amiga and PC, and should work fine on a Mac as well. There are about 20 images that

do look nice, mostly scans of marble and some PhotoShop experiments. The thumbnail index screens are very useful for quickly eyeballing the image you might want to use and includes the reference number of the image.

## Other Options

Not only are most of the good images from the Multimedia CD also on the Light-ROM series, but Light-ROM has more good images that are curiously absent from the other. For the images alone you are better off getting Light-ROM. As a bonus, you also get tons of objects and utilities.

Another good source of clip art and backgrounds is Club Toaster. Each issue of the Club Toaster disk from Dimension Technologies contains a number of very good background

screens. These are created by Dave Hebel, who also created composite studio. Dave understands what makes for a good background. It should be clean looking, video friendly, and enhance—not distract from the message placed over it.

The best source of backgrounds is yourself. Boot up ToasterPaint, Brilliance, or that copy of DPaint that they sold you when you bought your Toaster and have fun. Use a lot of blues and purples that complement the text that is generally white or yellow. Check out past issues of VTU for suggestions.

This product makes a strong argument that it has become too easy to publish a CD-ROM title. The poor quality of most of the images could be forgiven if there were many to choose from, but with only 100 images, every one should have been a winner.

VTU

Multimedia Backdrops - \$39.95  
Graphic Detail Inc. (502) 363-2986

Reach Patrik Beck by e-mail at [zippie@execpc.com](mailto:zippie@execpc.com).

Continued from page 41

The disc is fully compliant with the ISO-9660 level 1 standard and with the appropriate system software, is readable on Windows, Windows95, WindowsNT, Mac, Amiga, and UNIX systems.

## Demos and Showcase

Aside from the thousands of useful objects on Light-ROM Gold, there are two other directories that are always nice to see: A Demo directory and a Showcase directory. In the Demo directory, you can check out VertiSketch models, try out Vertilectric for sizzling lightning, or play the five AVI movies from the makers of IMPACT!. There's also a couple of sample images from Dark Horse Productions.

The Showcase area of Light-ROM is a great way for various LightWave artists to show off their stuff. You can see sample images from LightWave animators such as Arnie Boedecker, Alan Chan, Dean Scott, Joe Angel and others. The Showcase is not only a good place for displaying artist's creativity, but also a place for ideas. Anything on the CD for that matter can help you generate ideas to excel with your own

**"Many animators aren't for-**

**tunate enough to have excit-**

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animations and graphics. Simply load one of the many scenes, and you are instantly ready to modify, manipulate, and create even more. Too often, animators can be stuck at a road block, so to speak, when it comes to creating his/her next masterpiece. Many animators aren't fortunate enough to have exciting projects to feed their creative juices, so ideas from other animators are always a plus. Light-ROM Gold is a golden addition to your third-party LightWave resources.

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For more information on Light-ROM Gold call:  
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Dan Ablan's company AGA Digital Studios creates 3D animation for corporate, broadcast, and legal productions. Also, Dan is the author of the LightWave Power Guide from New Riders Publishing, available at your local bookstore.



# ProMix From ProWave

## Unlimited Audio Layering and More

by Joe Tracy

If the Video Toaster Flyer had separate upgrade paths for audio and video, then you might consider ProWave's new ProMix release (\$99) a major audio upgrade. To put it simply, ProMix not only fixes a number of Flyer limitations with audio, but it takes your capabilities as a producer to the next level. To say that I'm impressed with this product would be putting it mildly.

At review time, ProMix contained four very powerful and useful functions for Flyer owners. The purpose of the tools (mostly aimed at audio editing) is to

simplify complex projects and increase the Flyer's audio capabilities. Does ProMix live up to their stated purpose? Yes.

Before going deeper into my opinions and test results of ProMix, let's first take a quick look at the four tools included with ProMix:

**1) MixAudio-** This feature allows you to do unlimited mixing and layering of audio clips into one clip.

**2) AddAudio-** Add Audio allows you to add audio to a video clip. Not only is this useful for animation

clips, but it also to mixes audio clips with video clips that already have audio.

**3) InsertAudio-** InsertAudio allows you to insert a portion of an audio clip over a portion of any other audio or video clip without disturbing the audio before or after the insert point.

**4) JoinClips-** This feature allows you to join audio or video clips together by taking the clips you have selected and joining them into one.

In addition to the above four tools, ProWave has also included their Audio Black Box tool for free. Audio Black Box includes support for importing AD516, AIFF, WAV, VOX, IFF (8SVX), AU, and RAW formats.

So how does it work? When you install ProMix, the scripts become automatically





***"So what's the final verdict? In the month that I used ProMix to conduct this review, I found this to be a must have product. I have used ProMix in every single one of my projects. If you follow the directions, tutorials and examples as outlined in the ProMix manual, then you'll find the tools as part of your daily editing routine in no time at all."***

accessible from the tools menu in your Flyer interface. Right off the bat, that's a neat feature of this package. You don't have to worry about a new interface screen because it flawlessly works with and from the Flyer's interface. All you need to do is set up the edit or audio mix that you want to do in your project screens and then select the function from the tools menu that you want to use. ProMix does the rest.

#### **MixAudio**

I've produced hundreds of TV commercials and shows on my Flyer system. I've been handicapped, however, in about a dozen or so commercials due to the Flyer's limitations on the number of audio tracks that can be played at the same time. Had the MixAudio function been available during each of those editing sessions, it wouldn't have been a limitation. With MixAudio I can now mix as many audio tracks as I need down to one clip. One of the tests I performed with MixAudio was to mix 30 audio tracks in a 30-second TV commercial down to two tracks. That's 15 clips into one. MixAudio mixed them perfectly and took only eight minutes and 45 seconds to do so.

Another benefit I found with MixAudio is the ability to increase the volume of your audio or video clips. I had an audio clip that even when it was set at 100%, it was too soft. So I duplicated this seven-second clip and ran MixAudio. In one minute, 39 seconds it had mixed the two perfectly together and gave me the increase in audio that I needed.

#### **AddAudio**

While the power of unlimited audio layering with MixAudio was a lifesaver,

my favorite function of the four was AddAudio. I do a lot of mixing video with animation. Most of the video clips I process through LightWave have people talking on them. Since renderings do not contain audio, in the past I've had to process out the audio portion of the original clip and lip sync it to the rendered clip. If I had to do any editing on the video portion, I had to also edit the audio portion. Sometimes this became very time consuming. With AddAudio, I only had to lip sync the audio to video once.

Once I did that and ran the AddAudio function it automatically processed the audio into the video clip so they became one. As I continued to use AddAudio, however, I discovered it did much more than add audio to LightWave renderings. It also adds audio to existing clips with audio or allows you to replace the audio on a video clip with the audio of your choice. Think of a wedding videographer who has two master shots but only one master audio. With AddAudio, you can now move that master audio to the second master shot and have the exact same audio for both clips. In one of my tests I added a brief two second audio clip to a two second LightWave rendered video clip. It perfectly mixed the two in 28 seconds.

#### **InsertAudio**

InsertAudio was a function that was added to the ProMix package when I was in the middle of my review. While conducting tests I had come across the need to sometimes add just a second of a specific portion of audio to a second of a specific portion of video. This is something that AddAudio did not do, as it mixes backtimes of the audio clip to the entire video clip.

At first, I thought this was a limitation I would have to live with, but I was wrong. Apparently ProMix beta testers had also made the same request, because within a few days of bringing this problem to their attention, a new version had arrived and InsertAudio solved the problem.

Continued on page 48



# Made in the Shade

## ShaderMan: The LightWave Plug-in

by Patrik Beck

It's official, LightWave is being used everywhere. It is being used for game designs, movies, TV, even print media. Though it is finally getting the recognition it deserves, there are still many big name "closet users" who do not want to admit that they are achieving that high-end computer graphic look not with their officially endorsed expensive software, but with the more modestly priced, yet often more effective LightWave.

None the less, experienced LightWave enthusiasts have a knack for spotting a LightWave generated image. A lot of this is due to the look and feel of the textures. Even though people are finally starting to change the default values for fractal noise, it still has a certain amount of familiarity to the CGI-obsessed. This is about to change completely. A new plug-in package is being released that will have you single framing through mouthwash and toothpaste commercials and asking yourself, "Is it, or isn't it?"

ShaderMan is a collection of plug-ins from Dynamic Realities that adds a whole new set of texturing algorithms to the surfacing panel. This is *not* a collection of new surfaces. These are surface rendering engines with their own sets of attributes that are applied to LightWave objects through its plug-in architecture. The result is that you can now render images that have a completely different flavor than your typical LightWave rendering. Not that there is anything wrong with images that are obviously LightWave (like the lens flare featured prominently on the *Star Trek: Generations* movie poster), it is just that it is more fun to keep them guessing.

### Out With the Old, In With the New

ShaderMan allows LightWave to render images that look like they were not rendered by LightWave. Most of them also look pretty good straight out of the box. As much as we love LightWave, we do know that it has some limitations. One problem that I have is that my glass surfaces always come out looking plastic, without the feel of the hardness I could get when I was using

Imagine. I also have a hard time reproducing the metallic phong sheen that caligari/truespace does so well. And have you ever gotten a marble surface in LightWave that



you really liked without resorting to image mapping? The ShaderMan shaders can be split into three categories: 1) Very useful, 2) really cool, and 3) what were they thinking? The pre-release review copy I received includes more than a dozen different shaders which may change in the final release, but here are a number of the more intriguing shaders from all three categories:

**Marbles-** There is blue marble, green marble, and veined marble. Different from the native LightWave marble textures with a few more adjustable attributes.

**Glow-** This is not like the post-process glow effect. This is more like the glow of a really hot metal that is cooling around the edges. It is absolutely perfect for making crystal balls.

**Metallic-** Ever notice that LightWave is better at rendering realistic metal than it is at rendering metal that has a computer generated look? This shader gives a very clean hard edge to an object, and it does so without the over-used fractal reflections map.

**Fire-** With no velocity applied, this shader looks exactly like the kind of flames that get painted on the side of hot rods. As far as realistic rolling flames, this one



is almost there.

**Puffy Clouds-** This is very good for generating a pleasant blue and white cloud scape and will undoubtedly find its way as a substitute for fractal noise in many applications.

**Funky Glass-** Have you ever had a texture you just want to use everywhere? Funky glass does a good job at mimicking refractive effects without tracing refraction. It looks good with the defaults, a lot like real glass even without tracing refraction. It gets better once you start adding reflectivity, specular and your transparency.

**Mold-** This allows colored splotches that you can assign a growth rate to and have flow over an object.

**Wood-** Wood textures should be used for anything except simulating wood textures. This is as true for ShaderMan as it is for LightWave. Get a map.

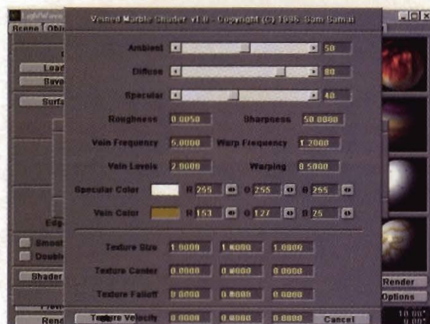
**Panel-** This does a perfect job of simulating imitation wood paneling. The fact that we need something like this is may be a sign that we have gone too far.

**Planet, including Luna, Saturn, Clouds and Stars-** This does a great job at recreating planetary bodies, clouds and stars that are mostly transparent. Each has a lot of parameters for fine tuning. Defaults assume a 1 meter planetary body. Who needs seven days?

It is interesting that the things that everybody sees, like fire, water, clouds, and wood are the things that nobody can agree as to what they really look like. Surface realism is also strongly dependent on the lighting of a scene. Unrealistic lighting yields phony-looking surfaces. This is my way of weaseling out of committing to whether the shaders are realistic or not.

## Getting Shady

It is rare that you find software that is equally as useful to the novice, intermediate and experienced user, but the ShaderMan plug-ins can be a big benefit to all. The instructions for using the shaders say to set the surface attributes to 100% Luminosity and 0% Diffusion, then select the desired shader. Those settings give the shader a blank slate to



One of the ShaderMan options panels illustrating the attributes of Veined Marble.

work with, completely bypassing the LightWave surfacing functions. By tweaking another value, you now have many new surfaces to apply to your objects just by staying with the default values.

***"For brave souls, there is also the ability to combine the original LightWave surfacing functions with the ShaderMan attributes. If you have already invested the time in learning how to achieve good textures, mixing in the ShaderMan plug-in is like adding a turbo charger."***

Those with some experience in surfacing objects will find that clicking the options button will offer them some familiar choices. Depending on which is selected, value boxes appropriate to the shader will appear allowing for fine tun-

ing of the surface. Most of the attributes are familiar and similar to those native to LightWave, like color, diffusion and specular. Many shaders also have adjustable velocities for allowing the surface to alter over time. In some cases you can even alter the color of the specular hot spot, a feature not normally available in LightWave. As of now there is no auto sizing of the shaders, so there are times when the default settings will not be appropriate to the object being rendered and will require adjustment. This can get complicated because sometimes the values fall into ranges that make more sense to programmers than to normal people. If you set your render to sphere diameter to roughly the same size as your object to render, whether it is an ashtray or a museum, you can just make wild guesses until you target the correct values.

For brave souls, there is also the ability to combine the original LightWave surfacing functions with the ShaderMan attributes. If you have already invested the time in learning how to achieve good textures, mixing in the ShaderMan plug-in is like adding a turbo charger. In fact, you can use the Luna shader on a red sphere to get the planet Mars. It is also possible to load more than one shader in the plug-in module. I suggest you try it quickly just to get it out of your system. The layered ShaderMan shaders do not always work well together. Though you can get some odd effects, I have yet to render anything that I would want to show my mom.

## Complaints

The biggest problem with using ShaderMan plug-ins for surfacing is that they commit the number one sin: They slow down rendering. The amount varies considerably from shader to shader, and the more of the shader surface that appears on the screen, the more it slows down. It is a trade off because the shader surfaces look so cool you want to fill the screen with them. The solution is to buy a faster computer.

Other than that, there are just a few minor quibbles, most of which are sure to be addressed after a few poison e-mails are sent. The attribut-



es in the option panels are often cryptic, and require some experimentations and wild guessing to see what the change in values are doing. The rendering to sphere preview function is a great help in this, but it gets difficult when the setting affect changes over time. There are also times where an attribute value listed in one shader cannot be accessed in a similar shader.



This planetscape was created using default values and ShaderMan textures Luna, Planet, Planet Clouds, Saturn and Luna with a red tint. Stars and Gardner Clouds are applied to the background.

The last complaint is not really a complaint, but just shows how spoiled by LightWave I have become.

#### ProMix Continued from page 45

Not only can Flyer producers use InsertAudio to insert audio into specified video locations, but also to edit a person's speech in a video clip. I had an interview clip where the person speaking kept saying "um." With insert audio I was able to replace the "um" noises with the ambiance room noise. Problem solved.

#### JoinClips

JoinClips was especially helpful to me in mixing together a number of audio clips for a voice over that I was editing. I edited the different portions, put them back to back and JoinClips mixed the 18 clips into one. Then I brought together five different three-second video clips and JoinClips mixed them into one 15-second clip. It only took three minutes and 15 seconds. Since completing the tests, however, I've been told that some revised programming to JoinClips has made the processing faster.

#### The Final Verdict

It's hard to find something to complain about with the ProMix package. Why? Because every time

***"ShaderMan is just the thing to give your renderings a unique look. You can use them as a straight up replacement for the stock set of generic surfaces supplied with LightWave, or as a booster to existing textures."***

A lot of the power of LightWave surfacing is that you can apply identical functions to different attributes for purposes they were not intended for. For instance, using marble on luminosity with velocity to create lighting effects, or near identical fractal noise values for diffusion and bump mapping to create rust. I think that

I found something that bothered me, it was immediately fixed! For example, when I was conducting my initial review, I was unable to add audio to Flyer stills. I was also unable to join stills together. When I brought this problem to the attention of ProWave, within 12 hours I had revised version that allowed both to take place! It is now part of the final package.

So what's the final verdict? In the month that I used ProMix to conduct this review, I found this to be a *must have* product. I have used ProMix in every single one of my projects. If you follow the directions, tutorials and examples as outlined in the ProMix manual, then you'll find the tools as part of your daily editing routine in no time at all.

At press time I learned that ProWave was working on a set of video tools that contain just as much power as their audio tools. The word is that their new program, RenderFX, will allow users to do some powerful functions including mixing an entire project (video and audio) into one clip. I

the excellent marbles this package provides would look great applied to transparency or as a bump map. Like I said, I'm spoiled. ShaderMan is just the thing to give your renderings a unique look. You can use them as a straight up replacement for the stock set of generic surfaces supplied with LightWave, or as a booster to existing textures. If you are so inclined and have a lot of time, it is possible to replicate the look of many of these shaders within the original surfacing menu, just as it is possible to copy the look of most other 3D programs, but you would miss out on the additional power that a new menu of adjustable attributes gives you.

The ShaderMan plug-ins are available through Dynamic Realities (414)798-9400. For information on this and other products by Dynamic Realities, access their Web site at [www.Dynamic-Realities.com](http://www.Dynamic-Realities.com).

VTU

*Patrik Beck is a cool animator guy who can write. Reach him by e-mail at [zippie@execpc.com](mailto:zippie@execpc.com).*

can think of a lot of great uses for a tool like that, including the ability to add effects (like fades) to video clips while scrolling. This combined with the fact that ProWave is now working in alliance with other third-party companies like OZ-Ware and Visual Inspirations should give all Flyer owners confidence that the future remains bright.

ProMix is \$99 and available from ProWave. For ProMix information, call (205) 830-2767. Their order number and address is 1-800-930-2646, ProWave, Inc. 7950 Highway 72 West, Unit G 102, Madison, AL 35758. They can also be reached by e-mail via [ProWave@aol.com](mailto:ProWave@aol.com) or on the World Wide Web at [www.Amiga.org/prowave.html](http://www.Amiga.org/prowave.html).

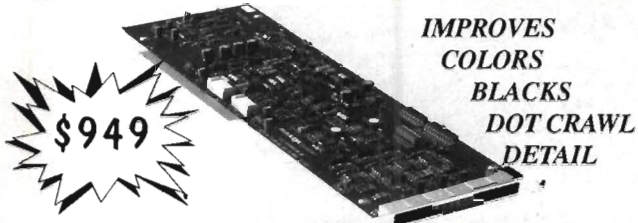
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*Joe Tracy is the editor-in-chief of Video Toaster User. Reach him at [jtracy@main.rosenet.net](mailto:jtracy@main.rosenet.net).*





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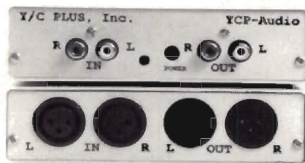


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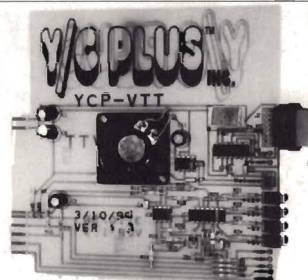


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# MicroScribe-3D

## 3D Digitizer With VertiSketch is a Winner

by Dave Thomas

**W**hile LightWave 3D undoubtedly contains one of the best modeling packages available in any PC-based 3D program, creating absolutely accurate models from real world objects can be difficult. The main problem is getting accurate, perfectly measured data into the program. Sure, you could measure the various parts of an object and attempt to place all of its points and polygons exactly. This, however, would be very time consuming and may still not work out to be the most accurate way to create a model. Using a device like a 3D scanner or digitizer is the only way to go to ensure accurate real world object re-creation.

### Your New Robotic Arm

The MicroScribe-3D is a digitizing device. The unit itself is a high-tech looking "robotic arm" that has a pen-like stylus at the end. By placing the point of the stylus on an object and pressing an assigned function key on the computer keyboard, a point is placed into the 3D workspace of your modeling program. By moving around the object and grabbing points, the object's shape is placed into the computer. The unit is capable of being twisted and rotated in almost any way. This allows for its use in digitizing even the oddest shaped objects, or reaching points on an object that other digitizing systems might have a hard time acquiring.

The unit is very easy to set up and use. The digitizer comes pre-assembled, so the only set up work the user has to do is connecting the unit to the serial port of the computer. Make sure there is plenty of space available, as the unit has a reach of 50 or 60 inches, depending on which version of the MicroScribe-3D you purchase. Some thought does have to be put into choosing the location of the unit, because you will want to be able to easily access any part of any object you want to digitize. The best place for setting up the digitizer is next to or close to your computer monitor. This way you can work with the digitizer and watch the process on the screen.

The unit itself is solidly constructed and fairly heavy,

so you probably will not need to bolt it down. You will want to bolt or otherwise secure your objects, however, as they must remain still while being digitized for the best results (attempts to digitize one of my cats was less than successful).

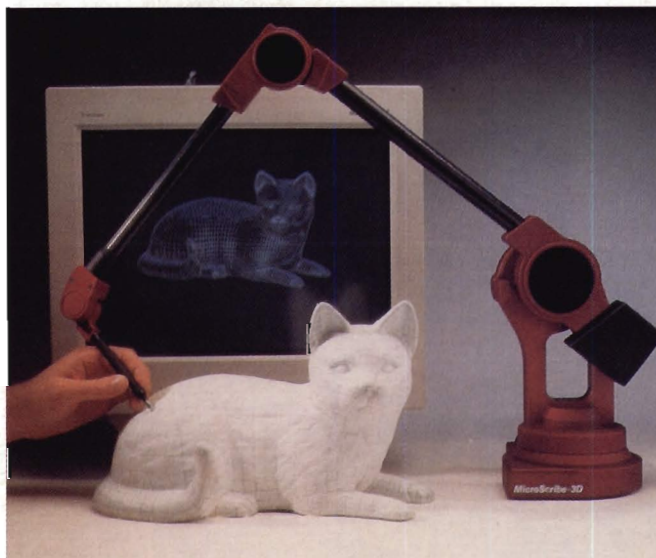
The unit is very easy to use, feeling lightweight and smooth. The stylus feels natural to hold and was comfortable to use for long periods of time, unlike other digitizing units I have worked with in the past. The manual that comes with the unit is useful but short. The information the manual contains is very helpful, but it would be nice to have a bit more troubleshooting information, especially during the setup process (though to be fair, all the problems I had were related to Windows, not the digitizing unit).

### VertiSketch

There are different software packages that work with the MicroScribe-3D. The package that LightWave users will use is VertiSketch from Blevins Enterprises, Inc. When installed, the software is added to the Custom plug-in list in Modeler, and once the key code from the disk is inputted, you are ready to digitize. By placing the

stylus on the object and telling it to select that point, the point is placed into Modeler. It is advisable to assign the Get Point command, as well as many other VertiSketch commands, to function keys. This allows you to keep one hand on the stylus and another on the keyboard, which makes the digitizing process easier to handle. VertiSketch does support the optional foot pedals for the MicroScribe-3D, which allows you to digitize without using the computer keyboard, and is my recommended method for working with the unit.

The VertiSketch software comes with several tutorials to help get you started. The first tutorial covers digitizing a face mask that is included with the package. This is a good shape to learn with, as it has a fair number of curves and edges, and is probably a shape that most people have a more difficult time modeling by hand. This tutorial introduces the important point of marking







your model in a grid pattern. This makes it possible to digitize in a straight line, which sounds really easy to do until the first time you try it. The manual suggests using graphic tape or a pencil to mark the object. I would suggest using a pencil or some sort of removable ink pen as I found the tape a bit difficult to use. The graphic tape is the only solution for an object like a character model that cannot be defaced in any way.

VertiSketch can be configured to digitize on either a point by point basis, or to continuously sample data wherever the stylus is placed. The resolution of the sampling can be set, and it is accurate to four decimal places. The sampling radius, or the area around the stylus the will search for a point can also be adjusted, though the smaller the area, the faster the unit responds. The software also has the ability to create Auto Quad's from the digitized data. It will even make quads between contours of different numbers of points, creating triangles where it is not possible for normal quads to be made. This is a really great feature, especially if you are planning to perform any sort of Metaform operations on your digitized object.

## Tutorials

After applying a grid to the object and setting the proper orientation for digitizing inside LightWave via the Quick Access command, it is time to begin digitizing and building an object. The tutorial shows the main

method, Lofting, which takes two lines of points and creates polygons between the contours. By selecting the Loft command between digitizing each line of points, it is possible to quickly build the basic model.

The main thing to remember is to consistently select the points of each contour line in the same order, so the program can accurately connect them into polygons. It also must be pointed out that it may be harder than you thought to get all of your points in an even line the first time you use the digitizer.

Using a digitizer is a very different method of modeling for most, and it takes some time to get used to working with one. By working through this tutorial, and practicing on other objects around your studio, you should become comfortable with the digitizing process in a short time. The Fit To command in the software can also help in this situation, allowing you to align a selected series of points to a line or plane in a background layer in LightWave Modeler.

The other tutorial that accompanies VertiSketch uses a contour map to create a 3D landscape. By setting the Y axis to the same height as each set of contours and then digitizing them, it is possible to enter each contour line at its correct height. By using the VertiSketch Scale command, it is possible to set the correct scale of the map, allowing the contours to be placed exactly as they would in the real world. When all the contours have been entered, using the AutoSurf command will turn all of the digitized contours into a continuous mesh, with all of the contours at their correct height. The program allows the choice between triangles and quads for the AutoSurf creation. By using these techniques, it's possible to bring in existing map data, or information off a set of blueprints. Personally, I had never thought of using a digitizer in this manner, and discovered that this was another very good use for this kind of equipment.

The VertiSketch manual is very complete. The tutorials get you

familiar with the software, and the reference material covers the rest of the options and commands in detail. I also must make special mention of Blevins Enterprises technical support. When I had some questions, they did an excellent job of walking me through the steps I needed to solve the problem. They even called me back later to make sure I had everything working properly. Technical support like this is very rare, and must be commended.

The MicroScribe-3D/VertiSketch combo works really well. The MicroScribe-3D unit is a solid, well-designed piece of equipment that is very easy to use. The VertiSketch software is also easy to use, and does an excellent job. This is the perfect system for projects like animating an already manufactured object, or creating an object from it's exact blueprints. The hardware/software combination is not cheap, and may be out of the budget range for some, though the price is lower than other solutions of this type. It also does take some time getting used to modeling in this fashion, and you will not be creating perfect models the first few times you use the system. This is the best combination I have ever used to build accurate objects in any 3D program.

System Requirements: LightWave 4.0 or better, system running Windows 3.1 or better (Windows 95 or NT recommended). Amiga version also supported.



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San Jose, CA 95131  
(408) 467-1900  
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121 Sweet Avenue  
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# Time to Fly

## MegageM's YBT and AV8R

by Dick DeJong

One of the first cries heard when the Flyer came out was, "Where's the timeline?" We know all the reasons why NewTek didn't include one, but that didn't satisfy the timeline lust in many of us. Daniel Wolf and his palindromic company, MegageM, have released YBT hoping to fulfill our longings. YBT can most easily be described by an early working title, "Yer Basic Timeline." Indeed YBT is an elegantly designed, compact program that works alongside your Flyer to produce text and graphic timelines for your project.

### Yer Basic Timeline

Wolf has been programming for the Amiga for 10 years and he believes in the KISS adage (keep it simple, stupid.) YBT works in a straight-forward, keep-out-of-the-way manner and is a model of concise assembly language. While many obese programs weigh in megabytes, YBT barely tips the scale with a few kilobytes.

Once installed, you can pull YBT up from the Flyer screen. First load a project, then access YBT. One of the advantages of YBT is how fast it can analyze a project and produce a timeline. A 50 crouton project literally takes seconds to process. (The program has a 999 crouton limit.)

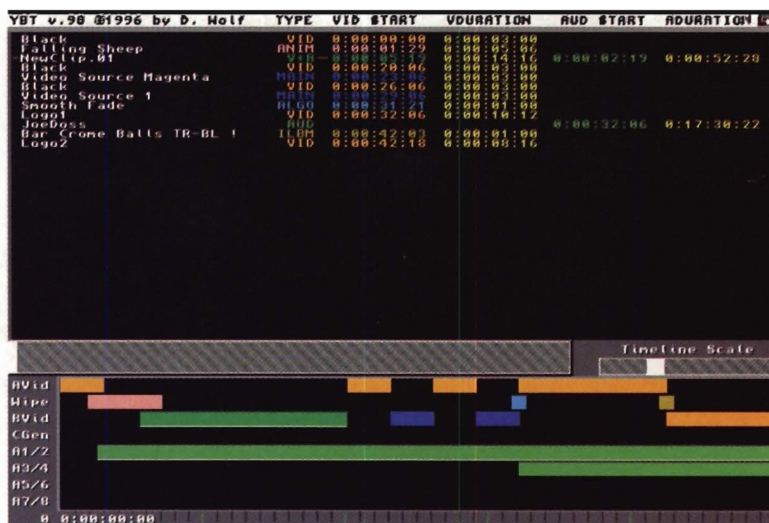
The YBT timeline screen is divided into two sections. The top part of the screen lists all of the croutons chronologically in color coded text. For example, video clips are in green and transitions are in blue. In the left column, the croutons are labeled by name. The next two columns give the program time code when the clip begins and the clip's duration. With a click of a key, you can toggle the second column to the program time code when the clip ends. The YBT screen can display thirty two croutons at once. To see more, simply scroll down the list.

The visual representation of the timeline is on the bottom of the screen. The timeline takes a minute to decipher. The program uses the analogy of A/B roll editing. So when you see rows in the timeline that are labeled Video A and Video B, do not assume that they correspond to the video drives on your Flyer. Instead, every time there is a transition from one video clip to another (even if the clips are on the same drive), the timeline places them on alternate video rows.

### Audio

The audio representation is a bit different from the video. YBT allows for four rows of audio on the timeline since the Flyer can process four stereo tracks at once. Each row stands

for a different stereo track. The trick to reading the audio track section is realizing that if there is no overlap of audio, only the first row of audio will be drawn out.



For example, let's imagine that your project consists of four clips of Madonna singing lullabys to her baby girl. All of the clips are recorded onto your Flyer A drive. In your project, you have put slow fades in between clips. The timeline will put the first clip in the Video A row, the second clip in Video B row, with the row in between designated for the transition. And of course, like any good timeline, the length of the lines are a proportional indication of the length of the clip.

If you look down at the audio track, there is one continuous line spanning the whole length of the program. The logic is that because there is no over-dubbing, all the audio takes place on one stereo track. Initially, I found this disconcerting. I wanted all my clips to be discreet lines on the timeline. In your Madonna project, to see which part of the audio timeline corresponds to individual clips, you highlight the clip in the text portion of the screen and the portion of the audio timeline representing it will be underlined.

YBT offers 11 different zoom factors to see your visual timeline. Simply select the length of time (from 10 seconds to 10 minutes) you want the screen to display. With another slider tool you can choose which part of the timeline to see.

### AV8R

As a stand-alone program, YBT gives Flyer owners a good, fast timeline, but I can hear the rumblings already. You're saying, "I don't want to just see a timeline, I want to be able to edit my clips within a timeline context." Wolf



heard your cries for help and two days after he completed programming YBT, he began the more formidable task of designing AV8R (aviator, for those of us who cannot decipher vanity license plates).

AV8R begins with YBT and adds an edit controller interface. You not only see how your clips align chronologically, but you can choose a clip, play it and reset in-points and out-points.

When you install AV8R, Wolf gives you an icon that you can put on your workbench screen that allows you to start your Flyer with AV8R running. Once you load a project, AV8R can be accessed from the Flyer's Program pull down menu.

AV8R steals the middle third of the YBT screen for its edit controller buttons. (Therefore, on the crouton text list, AV8R can only display 16 elements to YBT's 32.) the bottom third of the screen still displays the visual timeline.

To edit a clip, highlight it in the text list. If it's a video and audio clip, you can pick whether to edit one or the other, or both. The controller buttons are pretty much what you would want (shuttle reverse and forward, jog forward and reverse, stop, and pause) though you have two play buttons—one that plays only the edited portion of the clip, the other plays the whole clip.

#### More Goodies

MegageM also sells a hardware edit controller that plugs into the Amiga's serial port. The controller has a jog shuttle wheel and seven buttons that mimic the functions of the controller buttons in the software. I was not able to play with the hardware controller, though Wolf assures me that *play* is the correct word. He says editing is fun again with a controller rather than a mouse in your hands.

One of the strengths of YBT and AV8R is the ability to calculate and display program time code. When you pick a clip in AV8R to edit, its program time code is shown in the edit control window. As you jog or shuttle through the clip, this time code is updated. (AV8R does not give real time code readouts during playback.) Now you can set in- and out-points according to program time code. It's a great feature.

Another wonderful tool that Wolf has programmed into AV8R is the ability to quickly sync audio to video with

a keystroke. Start by locking the audio clip to the program in the Flyer control panel and jumping to AV8R. Pick the video clip and find the spot to which you want to sync the audio, then find the audio spot. Hit "s" and the clips are synced quickly and easily.

#### Testing—One, Two, Three

For my test of the system, I chose four video clips of a talking head and dropped them into a new project on the Flyer screen. I then jumped to AV8R and picked the first clip. I played the clip and set my in- and out-points. I then proceeded to the other three.

***"...when you play a clip and pause it in AV8R, the timeline has a marker that shows where you are in the project. More than once, I wanted to grab that marker with my mouse and scrub the clip back and forth. That's not a feature and AV8R does not claim it is, but I still want it."***

The process was quicker than with the Flyer control panels because I did not have to keep opening and closing panels. AV8R, though, does not give you any control over setting audio levels. By punching "r," AV8R quickly redrew the timelines according to my edits.

I had difficulties setting points when I wanted to start the audio track of a video clip at a different time from the video. The process didn't seem to reflect the logic of how the Flyer handles the situation. Even if AV8R's system is better, which I don't think it is, the program is piggybacking onto the Flyer and should be clear where and how its methods dif-


fer. (I reviewed a beta version of AV8R and hopefully this will be addressed before the product is released.)

I also found general navigation to be awkward. For example, I could see clearly from the time line when I wanted a clip to end, but I couldn't just type in the time code number and set the out-point. To get a second opinion on the program, I had a fellow video editor test AV8R independently and he reported similar frustrations.

Also, as small and transparent as AV8R is, it still slows down the functioning of the Flyer. For example, opening up Flyer control panels or simply reading a drive takes longer when AV8R is running. Overall, the Flyer is just more sluggish with AV8R. The differences are not great but noticeable.

Even though I love some of the features of YBT and AV8R, I would prefer to see some of the design changes mentioned above. Also, I realize the constraints on any third-party programmer, let alone Amiga programmers working with the limitations of 14 inch Amiga monitors. But I have to look at these screens for hours at a time when I'm editing and I grow weary of "just the facts, ma'am" displays. I think both programs would be better if they were filtered through the eyes of a graphic designer.

Perhaps the biggest problem with YBT and AV8R is what they show us as possibilities, but do not quite deliver—and to be fair, they do not claim to deliver. For example, when you play a clip and pause it in AV8R, the timeline has a marker that shows where you are in the project. More than once, I wanted to grab that marker with my mouse and scrub the clip back and forth. That's not a feature and AV8R does not claim it is, but I still want it.

To its credit, AV8R has taken the Flyer editing system to another level. To my dismay, it has demonstrated how much more progress has to be made. If you want to test drive YBT or AV8R for yourself, you can download sample programs from MegageM's web page, [www.megagem.com](http://www.megagem.com). 

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# FlyerHDTools

## Get Productive with an Inside Look

by Chuck Baker

Once you have mastered assembling the complicated hardware of a Video Toaster Flyer system, the next thing you must do is subject yourself to the whole new world of software that comes with it. What a headache it seems, but NewTek has made an effort to keep a very powerful package simple to use. With a

few guidelines you can quickly become productive with a this non-linear editing system that offers great output quality and features.

One of the first programs that you will need to use from the Flyer's software suite is FlyerHDTools, which prepares a hard drive to be used as a video or audio drive with the Flyer. The program is located in the NewTek/Programs directory (Figure 1). NewTek has included documentation files for the program in the directory NewTek/Programs/Documentation/Flyer. The specific files are: FHDTeknotes.doc, a general document on selecting drives for the Flyer and technical issues in the practical use of drives with the Flyer; FlyerHDTools.doc, the document on how to use the program FlyerHDTools; and HDToolsResults.doc, a sample file composed of several drive tests with comments.

Neither the drawer nor the files have icons, so you will need a directory utility to locate and read them. Many users find these doc files difficult wading, so in this article I will present a simple, step-by-step tutorial on how to run the program, and how to test and prepare a drive. This article assumes that you have already physically attached the drive to the Flyer.

### Put Your Toe in the Water

With the drives and your computer powered up, and no other software running whatsoever, open your NewTek directory, enter the Programs directory and double-click the FlyerHDTools icon (Figure 1). The main FlyerHDTools (FHDT) panel will open, and your pointer will be busy for a while, as the program polls the Flyer SCSI buses for attached drives.

Once FHDT has located all attached drives, it will list them in the Drive Information Window near the top of

the main panel (Figure 2). Note that right below the Drive Information Window is an empty text gadget. This gadget will display the information about the drive which has been selected for FHDT operations. Move your pointer over one of the line listings in the drive information window, and click the left mouse button. The line will highlight while the mouse button is pressed, and the informa-



tion will then appear in the text gadget (Figure 3). What does this line of text mean? The information for the selected drive is:

•A 0 Quantum XP34300 L912 FlyerA0 4.3GB AV

This means that I could not find a virgin Flyer drive at NewTek. If I had, the line would have read:

•A 0 Quantum XP34300 L912 4.3GB <NFS>

The <NFS> may or may not be present, depending on the revision of FHDT, and would indicate "No File System" on the drive. Broken down item by item, this is what the line means:

- A- This drive is on Flyer SCSI port A.
- 0- This drive has a SCSI ID of 0.
- Quantum- The drive's manufacturer.
- XP34300- The drive's model number.
- L912- The drive's Firmware revision number. Firmware is the operating system on the drive.
- FlyerA0- If the drive has been formatted, the Workbench volume will

appear after the revision number.

- 4.3GB- If formatted, this is the formatted capacity of

***"The first thing to attend to when preparing a drive for use with the Flyer is to make sure that the drive will transfer data as fast as it possibly can."***



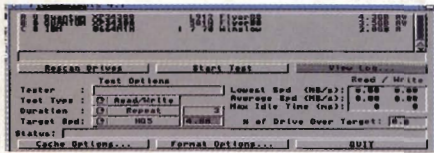


Figure 2: FlyerHDTools main panel.

the drive; if the drive has never been formatted, this is the raw capacity of the drive.

•AV- This drive has been formatted as a Flyer Audio/Video drive. A drive which was formatted for Audio Only would have an "A" displayed in this column, as does the drive listed on port C, "Winslow" (Figure 3).

### Get One Foot Wet

The first thing to attend to when preparing a drive for use with the Flyer is to make sure that the drive will transfer data as fast as it possibly can. Note the button at the lower left of the main panel, Cache Options. A



Figure 3: FHD main panel, drive selected for operations.

hard drive has some control parameters which can be changed to make the drive more suitable for the specific use to which it may be put. These parameters are stored in the Mode Pages, on an EEPROM chip on the drive's circuit board. An EEPROM is a chip that you can write data to that won't lose data even when the power to the drive is turned off. The items on the Mode Pages that are most important for the Flyer are those that control the drive's caches. These caches are RAM on the drive's



Figure 4: FHD cache options panel.

circuit board where data is stored temporarily, after being read from the drive's storage platters, or before being written to the platters.

Most hard drives ship with these cache parameters set in a way that will work best for DOS applications,

such as word processors or spreadsheet programs. With such applications, the user wants to make sure that data is absolutely accurate, when written or read. After all, if some of the data that makes up a program gets garbled, the program will not run properly. If some of the data that the user creates with a program gets garbled, then an important document or spreadsheet may be ruined.

For this reason, hard drives double-check data, often with several complicated routines when transfer-

***"Before you buy a drive, make certain that the drive is a make and model that is definitely intended for video work, and already has the caches properly set. This means choose your vendor carefully."***

ring data in or out. They may also have different ways of setting up the cache RAM, which can affect how fast data moves in or out of the cache. As an example, the first time you ask the drive for a directory listing, it will load the list of files that it contains into the cache RAM, transfer a copy from there into your computer's main RAM, then retain the listing in the cache RAM in case you want it again. If you do ask for the list again, the drive can produce it for you much faster next time, because it is in the cache RAM and does not need to be read from the drive media.

The Flyer needs a video drive to move data as rapidly as possible, whether writing or reading the drive. This means all error checking should be disabled, and the drive's cache RAM should be configured so all of it is made available for the data transfers. No RAM is set aside for other purposes and nothing is ever retained in the cache RAM.

Before you buy a drive, make certain that the drive is a make and model that is definitely intended for video work, and already has the caches properly set. This means choose your vendor carefully. Even drives intended to be video capable are often shipped from the factory set up for DOS applications instead. Good vendors have the capability and the willingness to set the drive

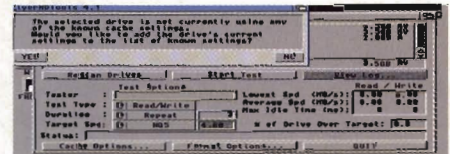


Figure 5: FHD message requester for an unknown drive.

caches up properly for you before delivery of the drive, or will be aware of those drives the Flyer knows, and will make sure to order those for you.

If FlyerHDTools knows a drive, then it can properly set these cache parameters for you. If you click the Cache Options button, and FlyerHDTools has information about that drive, then the Cache Options panel will open, and FlyerHDTools



Figure 6: File requester used to load a drive data file.

will select the proper cache settings file for you. In Figure 4, you can see that when I selected "Winslow" to operate on, and clicked Cache Options, that the correct make, model, and firmware appear in the select text gadget below the information window which shows the list of known drives. If you have chosen a drive for which FlyerHDTools already has proper setting information. All you need to do next is to click the Set Drive Cache button.

If, however, FlyerHDTools does not have proper cache setting information for the drive, then it will tell you with the requester displayed in Figure 5. If this happens, then I would recommend that you click the



YES button, and add the drive's current settings to FlyerHDTTools' list of known settings. When you click YES, you will be asked to enter a comment, and unless you know the drive is already properly set up for the Flyer (you or someone else has

utilities run on the PC, so you must have access to a PC with a SCSI-2 controller in order to use them. This is finicky work, however, and best left only to those who are technically skilled.

Assuming that you are lucky and

Flyer's requirements. Since there is a little fudge factor in this figure, it is even better if you can find a drive that has 200 milliseconds or less as the highest idle time.

If these minimums are met, then you must test for how much of the drive is suitable for the level of recording quality you intend to use. Most Flyer users prefer to use HQ5, and if you intend to use HQ5, then you must format only that portion of the drive that can record and play video at the 4.8 MB/sec required for HQ5. This process of formatting only a portion of the drive, instead of the

normal full data area, is referred to as *short-stroking* the drive.

What happens if you don't short-stroke? The hard drive's data transfer speed can vary across the drive's platter. Outer tracks are longer and store and transfer data at much higher rates than the inner tracks. As an example, a given hard drive may be able to transfer data at or above the HQ5 requirement across 80% of the surface of the platter, but the inner 20% will not be fast enough for HQ5.

The Flyer routinely records clips on the fastest available tracks, so clips are recorded from the outermost tracks working in. When playing back a project, the Flyer makes temp files

of little snippets of video clips needed for the A/B roll effects in the project. These are always written to the innermost available tracks, and are recorded moving outward.

If you format the whole drive, then HQ5 temp files are going to get written to the very slowest tracks on the drive, and may or may not play back

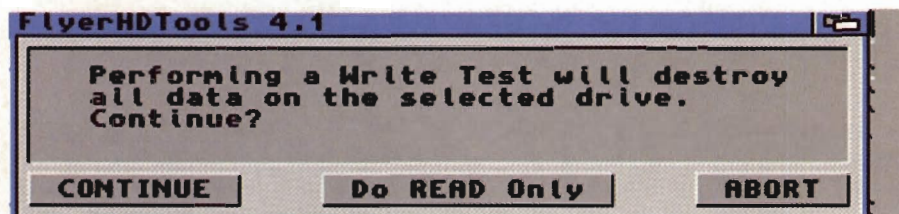


Figure 7: FHDT drive test "Last Chance Abort" requester.

already customized the cache settings with a utility from the manufacturer, for instance), I would suggest you use the comment "Not Customized." If the drive has been set up for the Flyer, then use the comment, "FlyerHDTTools Default." Then, on the FlyerHDTTools Cache Options panel, click the Save Config File button, and a new version of the file of known drives will be saved, including the new drive.

### Other Toe in the Water

FlyerHDTTools did not know your drive. What next? First, I would recommend that you call NewTek Technical Support. As new drive revisions come around, we try to keep up with the times by testing the drives on the Flyer, finding the proper cache settings, and then posting these on our BBS in a directory set aside for FlyerHDTTools "drive report files." Skilled end-users also upload cache setting files when they set up new drive makes and models that NewTek has not seen (for example, kudos to Kevin Elders, who has been active in configuring IBM Ultrastar drives, and posting drive report files to the BBS).

If we have worked with the drive, or a vendor or end-user has properly configured a drive for Flyer use, then the config file you need may already be present on the BBS. All you need to do is download it.

If we do not have the drive report file you need, then you may need to consult with the vendor who sold you the drive, or perhaps even the manufacturer. Quantum and IBM both provide utilities on their BBSes which allow the user to alter the Mode Page settings, and correct the cache settings for Flyer use. Other manufacturers may also offer such a program. These

the drive report file you need is on the BBS, how do you use it? In Figure 5, note the button labeled Read From File. When you click this button, a file requester opens (Figure 6). You can use the requester to navigate to and load the drive report file that you downloaded. Again, you will be asked to enter a comment. Do so, and proceed. This will create a new entry on the Available Cache Settings list. Locate and select that entry, then click the Set Drive Cache button. You are done with Cache settings! Return to the Main Panel.

### Get Both Feet Wet

So, the caches are set. What next? The time has come to test the drive for the level of Flyer capability that you will need. Why test? First, to see if your drive is suitable for Flyer use at all. The drive has to meet

certain minimums for speed of data transfer, and for low *idle time*, in order to be useful with the Flyer. The various causes of idle time for a hard drive are discussed in FHDTeknotes, and I would refer those who are interested to that document. A drive can have no idle times that last more than 300 milliseconds to meet the

***"In a video production,  
you don't want a crap-  
shoot—you want guar-  
anteed performance. For  
that reason, you need to  
test and short-stroke  
the drive."***



from there. An HQ5 clip can vary in the data rate throughout the clip, and may be as low as 1.4 MB/sec, or as high as 4.8 MB/sec. It's a crapshoot whether an HQ5 clip will play back on those slow inner tracks.

In video production, you don't want a crapshoot—you want guaranteed performance. For that reason, you need to test and short-stroke the drive.

### Pass the Test

First, under Test Options, click in the text gadget labeled Tester, and enter your name. FlyerHDTTools requires this. The default test settings are the ones you want to use for the first test on a new drive. Just in case you did a little random clicking, here is what you need:

Set the Test Type cycle button to Read/Write by clicking the cycle gadget. Set Duration to Repeat, and make sure that 3 is entered in the text gadget next to the button. Set Target Speed to HQ5.

Click the Start Test button. FlyerHDTTools will warn you that the test will destroy all data on the drive (Figure 7). Click Continue, then find something else to do for a few hours. From time to time, you can check on the progress of the test by watching the blue bar grow in the Status gadget just below the Target Speed gadget. If you attempt to move the mouse while the test is in progress, you will see long delays before the pointer reacts. The test really uses a lot of system resources, and you are best off just leaving it alone while it works.

When the test is complete, a requester will appear asking if you wish to format the drive. Answer No (we'll bypass this for a moment). If you look on the right side of the panel, you will see that a summary of the test results is now showing in the two little windows (Figure 8). The upper one is a table, which displays the results of Read tests on the left, and Write tests on the left. What you are most interested in right now is the Max Idle Time figures. Neither should be above 300 milliseconds.

Check the "% of drive over target"

***"Check the "% of driver over target" figure. The closer to 100% the better, but the exact figure you will see here will vary with make and model of the drive you are using."***



Figure 8: FHD main panel with results of a 3-Pass test.

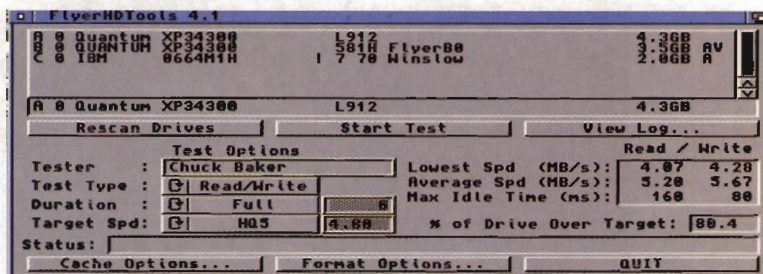


Figure 8b: FHD main panel with results of a full (One Pass) test. Note that the drive tested about 5% higher than on the 3-pass test.

figure. The closer to 100% the better, but the exact figure you will see here will vary with make and model of the drive you are using.

If you are reasonably satisfied with the results, it is time to make a choice. The FlyerHDTTools.doc recommends that at this point you format the drive, short-stroked in accordance with the 3-pass test results. If you are a cautious soul, that is the course to take, and you may skip the next two paragraphs.

If you are a little braver, then at this point, change the Test Duration to Full, and hit Start Test again. Get

the test going, and go away for a while.

When the test is complete, again check to make sure the idle times are no higher than 300 milliseconds, with under 200 milliseconds preferred. You should find that you get anywhere from 0 on up to perhaps 10% more of the drive surface over target. This gets you more space, and so far I haven't seen or heard of any instances where the performance is any less reliable.

### Dive On In

The moment of truth has come. Click the Format Options button. Now you see the Format Options Panel (Figure 9). Note the device information is listed at the top of the panel. The "percent of drive above target" figure should also be showing below the option gadgets.

First, click into the New Volume Name gadget, and type the name that you wish to assign to the drive. This is the name that will appear under the drive's icon on Workbench. Next, set the type of format for the drive, in the Format Volume For: gadget. The choices are Audio/Video, for a drive to which you wish to record video clips, and Audio Only, for an audio drive, naturally. Then set the short-stroke option for either Percent or

Blocks (NewTek officially recommends Blocks), or for none if you do not wish to short-stroke.

When you are satisfied with your entries, click the Format button. A requester will appear offering the option to abort if you wish, or to continue (Figure 10). If you continue, then a few minutes later the drive will be freshly formatted, and ready for recording.

### Come Up For Air

Now that you are familiar with the process, you can apply the same principles to testing and configuring an Audio drive. One of the selections for Target



Speed is Audio, and testing a potential audio drive at Repeat 3 with this option is wise. It is virtually never necessary to short-stroke an audio drive.

The principle factor you are looking

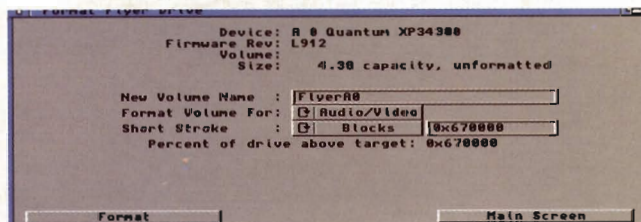


Figure 9: FHD format options panel.

for when testing an audio drive is a short idle time, no more than 200 milliseconds. An audio drive also should have a fast *seek time* (also called *access time*; this refers to the average time a drive takes to locate a particular track), something you should look for in the

specifications when selecting a drive to purchase. Both of these characteristics are needed if the drive is to be able to deliver two streams of stereo audio during project playback.

If you seem to be having problems with a drive after it has been in opera-

tion for a while, it is a good idea to test and reformat the drive. If the drive tests well with results the same as it originally had, then the problem may simply have been due to corruption of the data or file structure on the drive. If the drive shows higher idle times than it used to or a severely reduced area capable of the expected performance, then the drive may be failing and you should see about diagnosis and repair.

This by no means covers FlyerHDTools exhaustively, but you should now have a command of the features and the steps that are actually necessary to set up your video and audio drives.

VII

Chuck Baker works for NewTek technical support.

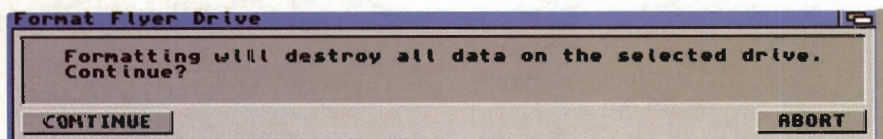
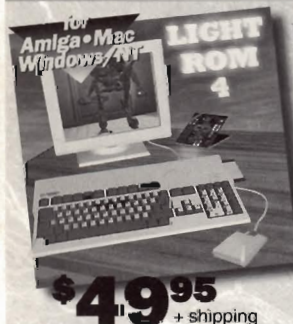


Figure 10: Format "Last Chance Abort" requester.

## LIGHTWAVE & MULTIMEDIA CD-ROMS



**LIGHT-ROM 4**, a 2 CD-ROM set features all new Lightwave objects and scene files. The bonus CD-ROM is 3,000 Jpeg Textures, a \$29.95 value. See below for full description of 3,000 Jpeg Textures CD-ROM. LIGHT-ROM 4 also includes a collection of scene files by Alan Chan, author of Power FX Kit Lightwave 3D book, featuring the Lightwave 5.0 tutorials included in this book.

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(Available November 10, 1996.)



**LIGHT-ROM GOLD** represents the best of LIGHT-ROM issues 1, 2, and 3 with over 6,000 Lightwave objects and scene files. LIGHT-ROM GOLD was created for those who did not purchase LIGHT-ROM 3. Each issue of LIGHT-ROM (LR) is built upon the previous issue. LR1 had 2,300 Lightwave objects, LR2 had 3,700 Lightwave objects and LR3 had over 6,000 Lightwave objects. LIGHT-ROM 4 starts over with all new objects than what is found on LIGHT-ROM GOLD.

Both LIGHT-ROM GOLD & LIGHT-ROM 4 include thumbnail renderings for easy previewing and include the following categories: Anatomy, Animals, Aviation, Botany, Buildings, Furniture, Music, Ships, Sports, Space, Vehicles, Video & many others. 99% royalty free!



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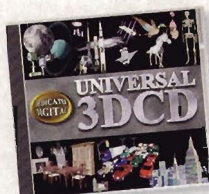
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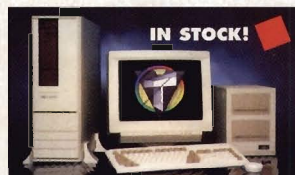
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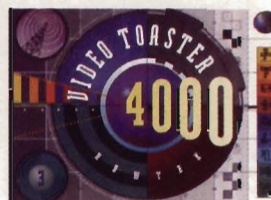
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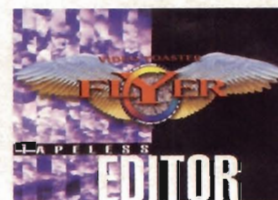


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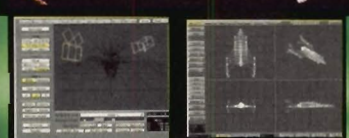
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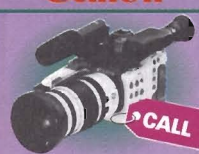
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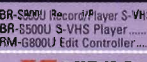
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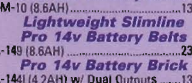
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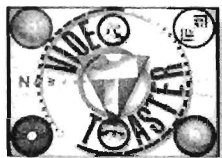
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# LAST WORD

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by Mojo



We're all born kicking and screaming. We yell to the world that we're here and we blindly struggle to free ourselves from the hands that grip us. Of course, if you had won that particular battle, the doctor probably would have dropped you and it's very unlikely that you'd be reading this column. Fortunately, none of us were strong enough at birth to wrestle free, so, despite our wishes, we were cleaned off, put in bed and lived to see the rest of our lives. But back then you were just a stupid baby, so how the hell could you know any better? You were acting on instinct, and that instinct told you to fight. Only later did you discover that giving in to your instincts can sometimes get you in big trouble.

About a month ago I wrote what was to be this "Last Word" column. It focused on the events surrounding Foundation Imaging's split with Babylon 5, and how Hollywood continues to eat it's young. It was a very spicy column, chock full o' scandal, controversy and slander—basically, 1,000 words of kicking and screaming. However, recent events have prompted me to replace the hellfire and brimstone in favor of a new column. The reasons why surprised even me.

As you are no doubt aware, this is the last issue of *Video Toaster User*. Miller Freeman Inc. has decided that this magazine (and *LIGHTWAVEPRO*) are no longer in their best interests. At the moment, everyone in the NewTek product community is debating the reasoning behind this and doing a whole lot of kicking and screaming in the direction of the publishing giant. The hoopla caused a publishing delay so I was offered a chance to re-write my column in case I wanted to include any final thoughts.

At first, I thought no way. I had already written an incredible diatribe on Hollywood evil, guaranteed to raise all kinds of ruckus. Isn't that what this column is supposed to do? Point fingers and place blame and rant and rave in that patented Mojo style?

When things with *B5* went sour, I was mad as hell. After four years of hard work we were all tossed aside and treated like dirt. I wanted to let the world know what had really happened and make the people responsible pay, so I sat down and pounded that keyboard with the fury of the Gods. It was one hell of a column. It kicked and screamed and made Hollywood look like the ugly moral-mutant it truly is. Boy, just wait until this one gets out, I thought. I sent it off very satisfied, marking the days on my calendar until "The Last Word" would hit the fan.

Very shortly thereafter, the hub-bub surrounding the break up had died down. *B5* had a new, in-house FX company moving along, we started working for *Star*

*Trek: Voyager* and the fans on the Internet had moved on to dissecting the latest plot flaw. It was over almost as quickly as it started. In a few months, everything would be pretty much back to normal and the bumps in our lives smoothed out.

That is, of course, until my column was released. It would almost certainly rekindle the fires and boil some more bad blood. Things would get hot all over again, but so what? The truth needed to be told! Wrongs needed righting! Or so I believed. In reality, I began to wonder what "getting even" would truly accomplish. Would the *B5* and *LightWave* fans all over the world rally together and topple the production company in the name of Foundation Imaging? No. Would the Justice Department launch a major investigation leading to the arrest and imprisonment of those responsible? Unlikely. Would the producers realize how wrong they had been and come back to us on their knees apologizing? Not a chance.

So what does the kicking and screaming actually achieve? In the end, not much. I would also have to accept the fact that this brief moment of satisfaction would also put me on a few major shit lists for life. Is this chickening out, or is it simply realizing that beating a dead horse is a waste of energy? In addition, deceased equestrian flogging seems especially fruitless when your stable is full of young, healthy stallions.

I think a lot of people might have been expecting this column to beat the dead horse of Miller Freeman. As much fun as it would have been, I was once again faced with the concept that doing so would simply be a waste of space. What is important is to move ahead and concentrate on what you have, rather than lament what you do not. *Babylon 5* may be gone, but it was damn fun work, we all learned a hell of a lot from it and the experience will help make our future projects even better.

*VTU* and *LIGHTWAVEPRO* may be gone, but these magazines have helped create a community and provided a resource that undoubtedly helped many people get where they were going. Without a doubt, NewTek's products (and the people who support them) will continue to prosper and even as you read this a new magazine (from a new publisher) is being prepared to pick up where this one is leaving off.

It may sound corny, but perhaps shows like *B5* and *Star Trek* have taught me more than I realize. Maybe we'd all be much better off if we understood that it is only by accepting our troubled pasts and putting them behind us that we can truly see how bright the future is going to be.

VTU

Reach Mojo at [Mojo@Foundation-i.com](mailto:Mojo@Foundation-i.com).





# ***ImageFX for the Toaster/Flyer!***

## **Video Toaster™ Support**

ImageFX's advanced Toaster support not only allows you to capture and display video frames, and to load and save images in the Framestore file format, it also allows you paint **directly** on the Toaster's composite output.

## **Flyer™ Support**

Support provided for loading and saving new Flyer clips so you can add special effects, transitions, and rotoscoping to your Flyer clips.

## **Lightwave 3D™ Support**

Extensive painting tools and Arexx support allows the power user to create hand painted textures, and automatically add special effects to Lightwave rendered scenes.

## **Blue and Green Screening**

Cinematte™ is included with ImageFX to perform digital blue or green screen keys with professional, reproducible, results. More than just simple Chroma-keying, you can actually maintain precise details such as hair, glass, and smoke, and output finished composites or individual elements for use in Lightwave!

## **Morphing and Warping**

CineMorph™, the Amiga's most popular full motion, cinematic quality morphing and warping package, is included at no extra charge.

## **Wire Removal**

Advanced Wireless™ program is included to remove wires, support rigs and even film scratches from your work. Supports key framing and sequence processing as well.

## **File Format Conversion**

Professional support for reading and writing nearly all file formats from a wide range of platforms such as Amiga, PC, Macintosh, Sun, SGI and many more.

## **Image Processing and Effects**

Functions and effects that can create fires, swirls, waves, ripples, sparkles, lightning bolts, motion blurs, electric arcs, distortions, edge detects, mosaics, lens flares, turn your video into paintings and a million other possibilities!

## **ARexx and Batch Processing**

Sophisticated ARexx batch scripts can be run with ImageFX's AutoFX and IMP batch processing utilities. Don't know ARexx? Automatic macro recording is built right in to write your scripts for you! ImageFX is also compatible with Visual Inspiration's Flyer utility, Control Tower, for advanced Flyer interaction.

With ImageFX and your Toaster, or Toaster/Flyer system, you can achieve creative heights you never thought reachable. You'll be able to create video masterpieces impossible to create on any other platform at any price! That's why the magazine **Video Toaster User** said about ImageFX, **"You need this program. Period."**



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# LIGHTWAVE 3D

## FIVE POINT ZERO

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Founder of Foundation Imaging  
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