

THE DESKTOP VIDEO MAGAZINE

USER

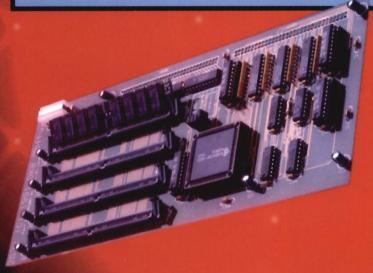
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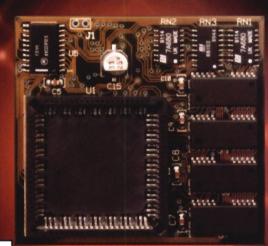
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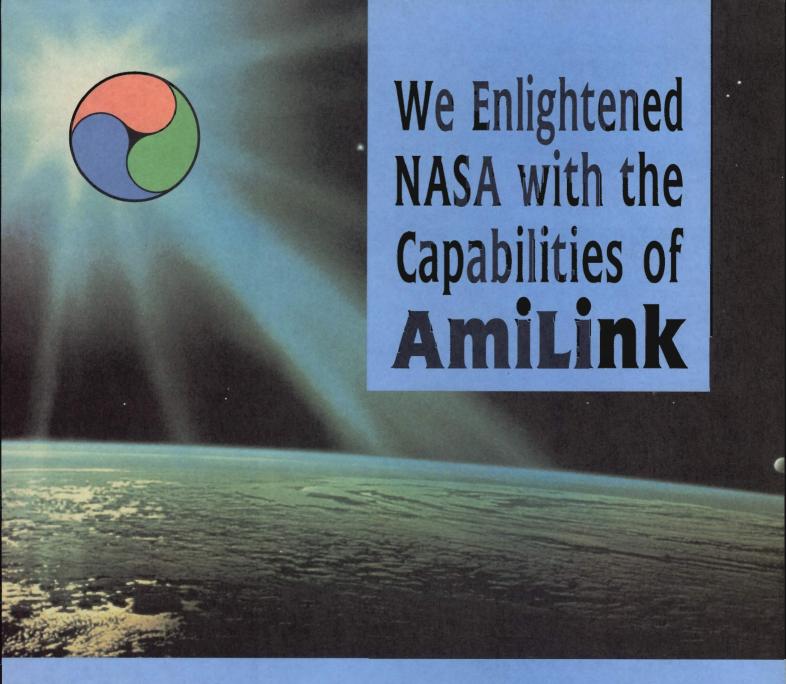


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CONTENTS

TOASTER TALK by Jim Plant ABOUT THE COVER by Tom Twohy LETTERS TO THE EDITOR by Editorial Staff PRO FILES by Christina Knighton SLICES by James Hebert DEAR JOHN by John Gross TAMING THE WAVE by David Hopkins NEWTEKS'S TONY STUTTERHEIM by Lee Stranahan SURFACE MORPHING 3 4 4 4 4 4 4 4 4 4 4 4 4
ABOUT THE COVER by Tom Twohy LETTERS TO THE EDITOR by Editorial Staff PRO•FILES by Christina Knighton SLICES by James Hebert DEAR JOHN by John Gross TAMING THE WAVE by David Hopkins NEWTEKS'S TONY STUTTERHEIM by Lee Stranahan
LETTERS TO THE EDITOR by Editorial Staff PRO FILES by Christina Knighton SLICES by James Hebert DEAR JOHN by John Gross TAMING THE WAVE by David Hopkins NEWTEKS'S TONY STUTTERHEIM by Lee Stranahan
PRO FILES by Christina Knighton SLICES by James Hebert DEAR JOHN by John Gross TAMING THE WAVE by David Hopkins NEWTEKS'S TONY STUTTERHEM by Lee Stranahan
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DEAR JOHN by John Gross TAMING THE WAVE by David Hopkins NEWTEKS'S TONY STUTTERHEM by Lee Stranahan
by John Gross TAMING THE WAVE by David Hopkins NEWTEKS'S TONY STUTTERHEIM by Lee Stranahan
by David Hopkins NEWTEKS'S TONY STUTTERHEIM by Lee Stranahan
NEWTEKS'S TONY STUTTERHEIM by Lee Stranahan 26
by Lee Stranahan
CHREALE MIRDHINE 2/1
by Bob Hovey
TREXX PROFESSIONAL VS. THE SLIDESHOW FROM HELL 40
by Stephen Jacobs DEALIV HOING CUDORAAEV DADT O
REALLY USING CHROMAFX PART 2 by C.William Henderson
VIDEO TOASTER HIGH 48
by Trevor Donovan AREXX AND THE TOASTER PART 2 54
by Arnie Cachelin TOASTMASTER AND WIPEMASTER 60
by Tony Gomez
TOASTER TOOLKIT by Frank Kelly
TOAST ON THE ROAD 70
by Joe Clasen SONY EVO-9700 HI-8 DECK 74
by Dr. Charles Eaton
AUTHORIZED VIDEO TOASTER DEALERS 82
VIDEO TOASTER USER GROUPS 90
ADVERTISER INDEX 91

IDEO TOASTER USER	
August/September 1992	
ssue 7	

Publisher/Editor Jim Plant

Executive Editor **David Duberman**

Art Director **Tom Twohy**

Cover/Ilustrations
Tom Twohy

Production Director Marilyn Knecht

Administration Karla Holland

Administrative Assistant **Jennifer Torrens**

Editorial Consultant Lee Stranahan

Associate Editors: James Hebert John Gross David Hopkins

Contributing Editors:
Christina Knighton.
Bob Hovey, Stephen Jacobs,
C. William Henderson,
Trevor Donovan,
Arnie Cachelin, Tony Gomez,
Frank Kelly, Joe Clasen,
Dr. Charles Eaton

Advertising Director Mark Holland 408-252-0508

Founded by Lee & Kathy Stranahan

Contact us electronically on: Portal: AVID Internet: AVID@cup.portal.com.

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Toaster Talk

By Jim Plant

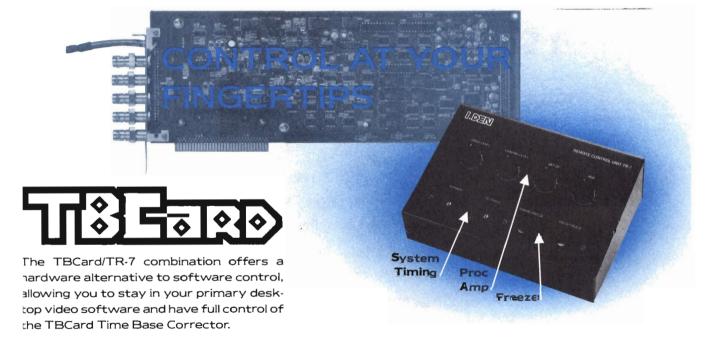


elcome to another issue of Video Toaster User. Those of you who have been with us for a few issues have probably no-

ticed some dramatic improvements in each successive issue. In some ways our growth has paralleled the Toaster's own explosive growth. As many of you know, Video Toaster User began life as Bread Box, a newsletter started in early 1991 by Toaster Evangelist Lee Stranahan. When Lee decided to take a job with NewTek earlier end? this year, he approached us about continuing the publication. We carefully evaluated his proposal for a considerable length of time (at least 15 minutes) and then agreed to continue where he had left off. The Feb/Mar issue of Bread Box was a healthy 44 pages in length. By the next issue, Apr/May, we had decided to change the name of the magazine to Video Toaster User, and it grew to 60 pages. Last issue, the June/July edition, was a full 84 pages. The Aug/Sep issue you hold in your hands is a hefty 100 pages! Where will it all

That's a question I've been asking myself a lot lately. I can tell you this: the issue we're currently producing (Oct/Nov), will be unbelievable. Let me give you a hint of what you can expect to see in the next issue. First off, it's definitely going to be bigger. We're projecting close to 150 pages! Secondly, we're upgrading the paper quality by printing on a coated, glossy stock. This will allow us to reproduce our color graphics at higher resolution and overall quality. Did I mention color graph-

Toaster Talk continues on page 80)



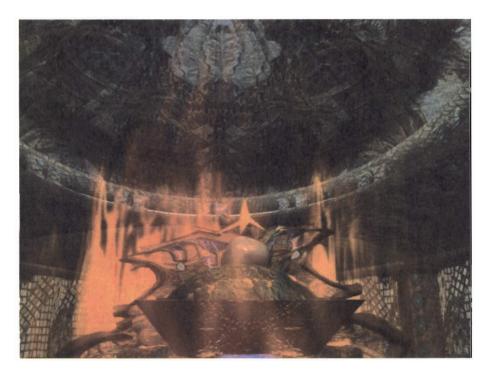
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About The Cover



A Nutopia <u>Exclusive</u>

The image on the front cover, like the one shown above, comes from Nutopia's as vet unreleased video short "Theology". This video has taken a year to painstakingly produce, and it shows. The texture images were created largely by hand on a Macintosh Quadra using Adobe System's Photoshop and Fractal Design's Painter.

These texture images were sent directly to the Amiga via a beta version of NewTek's ToasterLink/Mac SCSI interface. From there the image was applied to models created using the standard LightWave Modeler. These LightWave files were then rendered using the company's custom in-house 13-Toaster network.

Special thanks to Nutopia's Eric Myers and Till Crueger for all their help in bringing this image to life.

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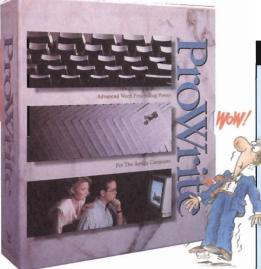
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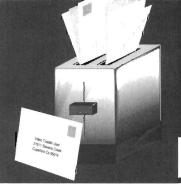
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To The Editor

Dear Video Toaster User:

We want to get a Video Toaster setup to produce animation. We also want to be able to do more generic video production to help the investment pay for itself. After several months of investigation, we are still having some problems figuring out just what sort of setup we need. We hope you can give us some advice, or steer us towards someone who can.

Carl & Karen Klutzke Lafayette, Indiana

1. Do you recommend a CD-ROM (I heard that NewTek might be shipping the Toaster software on CD-ROM later)?

While there have been rumors that the next version of the Video Toaster software will come in CD-ROM format, it's still early, so it's unlikely that a final decision has been made, and we can't confirm or deny the rumor. Therefore it doesn't make sense to buy a drive primarily for that reason. However, there are other good reasons to get into CD-ROM now. One of the best collections of 24-bit digitized background images and textures for 3D mapping is Texture City, and the best value is the 100-image CD-ROM version. With this baby hooked up to your Toaster you have virtually instant access to a vast library of highquality images without taking up any space on your hard drive. Also there are at least two different collections of public domain software (one is the Fred Fish collection of more than 600 disks)

available on CD-ROM for Amiga computers. These disks contain hundreds of public domain and shareware programs and data collections (e.g. fonts and clip art) of potential use to Video Toaster users.

The tricky part is finding a good CD-ROM drive and getting to work with the Amiga/Toaster. We strongly recommend that you work with a reliable dealer in your area to accomplish this. Your dealer can recommend the proper drive, an appropriate SCSI controller (required), and the necessary driver software. If you can't find sup-

There have been rumors that the next version of the Video Toaster operating system will come in **CD-ROM format.**

port in your area, call one of the dealers that advertises in this publication.

2. What is a time base corrector? Is mend? it a card for the Amiga, something that goes into the video deck, or both? Does the VCR need some special capabilities to use one? Do we need a TBC for the output deck? Do we need a separate TBC for each input VCR?

VTU: A time base corrector is a device that takes the video signal from from a VTR and replaces the flawed sync portion of that signal with exact timing information. In video, timing is critical, and TBC processing is mandatory for any video signal that is to be fed into any production switcher, including the Toaster. With the Toaster, one TBC is required for each incoming videotaped signal, so you may need as many as four TBC channels for a Toaster system. Time base correction is not required for video signals originating from a camera or laser disk player, nor is it necessary to use one for VTRs recording Toaster output. Time base correctors are available as internal cards for the Amiga 2000 and as stand-alone, external boxes as well. DPS, I-Den, Nova, Digital Creations and Hotronic are but a few of the TBC manufacturerers who offer a variety of internal and external TBCs for Toaster users. Some high-end editing decks such as the Panasonic AG-7750 include built-in time base correction circuitry which is applied to the deck's output. Even if you use a deck with built-in time base correction, check the quality of the TBC output carefully; you might be better off with a separate TBC.

3. How much RAM do you recom-

VTU: With the Toaster you should have at least seven to nine megabytes of memory. Nine megabytes is the maximum RAM expansion size available with an unaccelerated Amiga 2000, unless you've added a tenth meg

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DIGITAL

CREATIONS

with the MegaChip 2000 Chip RAM doubler. The main reason you'd need more than nine megabytes is if you're working in LightWave 3D with large complex scenes and/or with many large bitmap images for texture and bump mapping or foregrounds and backgrounds. In that case, you'd definitely want to use an accelerator with a faster 68030 or 68040 CPU. One of the big benefits of most accelerator cards (besides speed) is the ability to expand memory far beyond nine megabytes. For example, the 68040 accelerator from Progressive Peripherals for the Amiga 2000 can accommodate up to 32 megabytes of RAM. And the DKB 2632 RAM expansion board for the Commodore 2630 accelerator card found in the 2500 and 2000/HDA lets you have over 100 megabytes of RAM in the system! Incidentally, having 32bit expansion RAM directly on or attached to the accelerator card usually lets the system work much faster than using standard (and slower) 16-bit RAM.

4. What is a single-frame controller? Is it a card for the Amiga, something that goes into the video deck, or both? Does the VCR need some special capabilities to use one? Do we need an SFC for input?

VTU: One of the big surprises for many people when first introduced to the Video Toaster is that it's not capable of displaying real time animation. The Toaster can display a 752by-480-pixel 24-bit image from either of its two frame buffers, but it takes several seconds to load an image from disk into a frame buffer, so it's not possible to display an animation sequence rapidly from the Toaster. So to view a Toaster animation in full color. each frame must be recorded successively onto videotape after it is rendered. Single frame recording requires a degree of precision not usually found in consumer equipment so you cannot use a standard home VCR or camcorder. Professional video tape recorder's are designed and built with the necessary standards of reliability and accuracy.

A single-frame controller (SFC) is a combination of hardware and software. The hardware permits a physical connection between the Toaster workstation and the videotape recorder (VTR), and the software provides a language and protocol for the two devices to communicate with each other. The type of single frame controller you get may depend on the type of VTR you

It's a common misconception that the deck must be kept in "stand-bv" mode while LightWave is rendering the next frame

use—a less expensive VTR with a parallel remote interface may require a more expensive unit, but the high-end decks with serial interfaces can use a cheaper SFC. The two SFCs we've had experience with here at VTU are the 2000A controller from BCD (\$1000), and the Personal SFC from Nucleus (\$425). While the former can work with parallel as well as serial decks, the latter requires a serial deck with built-in time code. SMPTE time code capability (another whole topic in itself) is required for single-frame recording. The BCD controller can provide SMPTE capability for decks that don't have it built in, but the Personal SFC requires that the deck provide time code. Once you've used the SFC software to tell the deck where you want to start recording on the tape, LightWave can control the deck directly via a command that you enter in the Record section. When it's done rendering a frame, it tells the deck to record the frame and then advances its frame counter by one. Incidentally, it's a common misconception that the deck must be kept in "standby" mode while LightWave is rendering the next frame, which means that the tape is threaded and pressed against the rotating play head. However, it is possible to issue the deck a command to "stand down" while waiting for longer renderings so that the danger of wearing out the head and/or tape is greatly reduced. This does, however, place greater stress on the mechanism that threads and unthreads the tape.

5. Where can we go when we have questions like these?

VTU: The best place for assistance with questions like these is your local Video Toaster dealer (most Amiga computer dealers carry the Toaster). He or she spends most of the time dealing with people in much the same position as yourselves, and so is quite often already prepared with answers to questions you might have considered hopeless. If that's not helpful, try calling NewTek technical support if it's a Toaster-specific question. Check the dealer resource section of this magazine for the dealer nearest you.

Another way of getting help with computer and video-related questions and problems is via modem. A modem is a device that lets your computer talk to others all over the world via telephone lines, and can be useful for finding all sorts of information, particularly computer-related info. You can log onto electronic bulletin board systems, read and leave messages, receive free software, and much more—it truly places the world at your fingertips!



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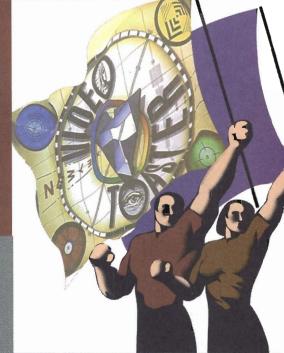
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Profiles compiled by Christina Knighton









Media Services

Media Services (MS) is a thriving multi-faceted business based in Salt Lake City, UT. Founded by Harold Russell eighteen years ago, MS has grown from a full service production house to a so-called "mega-Toaster" corporation with five distinct divisions.

"The Video Toaster was really the turning point for me," Russell says, "Before, I was just a production house. When I bought my first Toaster about a year-and-a-half ago, everything changed." Installing the Toaster enabled Russell to offer previously expensive graphics and transitions at a much more affordable rate. Business skyrocketed to the point where he nearly had to turn prospective clients away. Russell recalls, "I didn't like the idea of losing customers, so I started to sell them the equipment, allowing my clients to produce their own videos. It seemed like the natural thing to do." He was right. Sales took off - and a service/repair department followed shortly after.

Russell soon noticed something consistent about most of the Toaster systems he was installing. He was constantly looking for a VT-compatible program for this or a friendly controller for that. "At first I was frustrated," he says, "There didn't seem to be any one source that listed all of the products that the Toaster worked with. That's when I got the idea for the Atomic Toaster Catalog." A free publication, the Atomic Toaster Catalog (ATC) is available to anyone who wants to get the most out of their Video Toaster. Everything from font and file conversion packages to MIDI and machine controllers can be found within its pages. "ATC was originally designed to fit inside of the Toaster manual," Harold remarks, "but it grew too quickly! I'm currently designing an ATC binder. Hopefully, it will be available by Thanksgiving."

By now, you'd think Harold would be too busy to take on any new projects. Not so! In addition to building a new, larger facility, plans for yet another division of Media Services are in the works. "Right now, I'm in the process of putting together a training/ seminar program," Harold explains, "The idea is to bring computer and video people to a common level of understanding and from there, teach Toaster." The tentative name of this new workshop? "Aliens Ate My Toaster,"

Graphics (left) by Media Services

For a free copy of the Atomic Toaster Catalog contact Harold Russell at Media Services Salt Lake City, UT 801/466-7330

VideoEDITService

Keith Burnett is the founder of VideoEDITService (VES) in Atlanta, GA. VES is a full-blown production facility catering mainly to small business. They offer everything from mass dubbing to suite rental - complete with full-time Toaster technicians.

Where did the idea come from? "I saw a need for do-it-yourself video production." Burnett answers, "It all started in college. We were given our finals. The assignment was to create a business plan. I noticed then that anyone could go out and buy a camcorder for around \$1000. That camera's quality is better than what was broadcast just a few years ago," he explains, These powerful production tools are cheaply available today. What's not cheap, however, is editing. I found a subject for my assignment and later modeled VES after it."

With help from the on-site Toaster technician, the clients' raw footage is quickly transformed into professional-looking videos fast without breaking their budget. Burnett states, "With the Video Toaster, we've been able to bring the cost of production to an all-time low. So low, in fact,

that it turns out we aren't competing with other production facilities. Our competition are other forms of media like print, slides, and overhead projectors."

Encouraging client-provided footage is an important strategic move for VES. Clients get an inexpensive, high quality production with exactly the shots they want; and VES, free from the obligation of a location shoot, is able to focus its resources on low-cost post production.

The future looks bright for VideoEDITService. Soon, another Toaster Workstation will be dedicated to animation and talks of additional locations have started. "The Toaster has created a whole new market, and I'm doing my best to keep up with the demand," Burnett says with a smile.

Kerth Burnett VideoEDITService Atlanta, GA 404/633-6002



Keith Burnett of VideoEDITService

HP Productions

"Taking the Toaster out of the kitchen." That's Heidi Pfisterer's claim to fame - well, one of them, anyway.

Heidi is the president and founder of HP Productions (HPP), based near Washington, D.C. When asked how she got her start, she replies, "After graduate studies, I joined a huge audio-visual production house in Philadelphia as one of the youngest producers ever hired. After a year, I decided to strike out on my own. I landed a production contract with AT&T, took it, and off to D.C. I went. HP Productions was born."

HPP is a full service production facility with the Video Toaster at the heart. They produce biographical, commercial, industrial, and training tapes. HPP is also involved in design work, having recently completed a project with Westinghouse on their tradeshow booth.

Heidi's specialties, however, are meetings and presentations. "We use the Toaster on location and our clients love it," she comments, "They can't believe that we can just walk in, plop the Toaster on a table, hook it up, and be ready to go in minutes." Heidi pauses a moment and adds with a wry smile, "Whatever happened to the minimum three hour set-up?"

HPP's unique twist is their ability to present a video recap of the event itself. Heidi delights in the audience's amazement. "With the Toaster, I'm able to put together a finale of what happened just moments earlier. It's a great feeling to listen to the crowd literally gasp, 'Did you see that,' and 'How did they do that?' to one another as they experience something on the big screen incorporating music, graphics, text, and a variety of flashy transitions. The show's a knock-out!'

Her plans for the future are as dynamic as her services of today. Specifically, Heidi is going non-linear soon, adding more Toasters, and expanding HPP's scope to include design work for more tradeshow booths, slides and brochures. Her personal credo? "Bigger, better, faster, more."

Heidi Pfisterer Washington, D.C. 703/356-3099



SLICES

By James Hebert



any Video Toaster owners have asked, "Which fonts are included with the Video Toaster CG?" Most of the fonts included with System 2.0 are based on a

single character set that includes special characters such as the Trademark and Copyright symbols. Most fonts will contain the same characters and symbols in the same key locations. Generally, the only exceptions to this rule are certain of the Color Toasterfonts, which can not contain lower-case characters due to space limitations.

Below is a chart of the characters you will find in most System 2.0 Toasterfonts. The chart is laid out row by row exactly as the active character keys on your keyboard. Each character is paired, its unshifted value beside its shifted value.

Secrets of ToasterCG - II: The Crayon Font

OK, so the Crayon font is not a secret. However, many users do not know that the two sizes of the Crayon font contain "exra" letters in different color schemes.

Crayon.65 contains the complete alphanumeric character set in two different color schemes: whether you type *shifted* or *unshifted* characters will determine which color set you use. This is useful for words with repeated letters (such as "balloon") where you don't want two letters of the same color to be distracting.

Crayon.87, when used *shifted*, contains the complete alphanumeric character set in

one color scheme. When used *unshifted*, duplicates of the following letters will be available in a second color scheme: A, E, I, O, U, N, R.

Secrets of ToasterPaint - Scrolling the Screen

Have you ever tried to scroll an image in ToasterPaint but found that the screen would not move? There are two things you should check:

1) Check whether your Caps Lock key is pressed (if so, its lamp will be lit); it should be unlit, or off. Are you holding down the Shift, Alt, Ctrl, or Amiga keys while trying to scroll?

An undocumented aspect of ToasterPaint causes the scroll feature to become "locked" when these keys are held down; let go of the key and scrolling will unlock.

 Press the Help key. This key toggles scrolling between "locked" and "unlocked." You might have pressed it by accident.

When texture mapping in ToasterPaint, hold down the Alt key to maintain the same aspect ratio (height to width) of the original image. However, be aware that when you reach the edge of the screen, you cannot scroll any further unless you let go of the Alt key. To texture map beyond one visible screenful, let go of the Alt key, scroll a bit further, then hold down the Alt key again. Move the mouse a bit, and the texture mapping will again be constrained by the correct aspect ratio. In this way you can texture map any size image.

Secrets of LightWave - Animating Glints of Light

Do you recall the System 2.0 demo tape

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aA sS dD fF gG hH jJ kK IL ;: '''

zZ xX cC vV bB nN mM ,< .> /?

for the Video Toaster? The brushed aluminum look of the Toaster 2.0 logo combined with great swaths of light playing across its surface while glints of light lit the edges of the font? How was it done?

Tony Stutterheim, NewTek's Producer/ Animator, used a reflection map on the both the brushed aluminum surface and the lettering itself. The reflected image was a black screen with a few diagonal streaks of white, which caused multiple highlights to appear on different surfaces. The objects within the animation, as well as the camera and primary light source, all rotated (with respect to the stationery reflection map image), so that the highlights appeared to move across the surfaces of the letters.

Here's a simplified version of how the lighting effect was put together, followed by an explanation of how and why it works. This functions just as well for still images as for animated scenes. You should have some basic experience using ToasterPaint and LightWave before attempting this tutorial.

Creating the Reflected Image Highlight

The image you are going to create in ToasterPaint is simply a completely black screen with five diagonal white lines.

- I Enter ToasterPaint.
- 2 Select the color white, the Polygon/ Straight Line tool, and the Fill button.
- 3 Go to the Transparency/Warping Menu. Select Point Warping (the sphere button), and set the Edge Transparency slider to the bottom of the scale.
- 4 Draw a diagonal line, about half an inch thick, from the upper right corner to the lower left corner of the full screen. You'll have to scroll the screen to get all the way into the corners. Draw the outline of this shape, and ToasterPaint will fill it with white while blending its edges into the black background.
- 5 Draw a few more diagonal white streaks both above and below the original one, for a total of five.

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Quadra Bld. **ABCDEFG** abcdefg

Italian **ABCDEFG** abcdefg

Italian Bld. **ABCDEFG** abcdefg

Serif Type 2 Super Bold, America, America Bold, Book, Book Bold

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Amer. Bld. **ABCDEFG** abcdefg

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Heavvface AAAAAA àáåâäã

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Decorative 1 Misty, Castle, Heavyface, Western, Bristle

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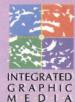


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6 - Save this image using the Save RGB option. Name it RefMap.

Setting up the Scene

This step sets up a few sample objects, with the correct surface properties, to get a nice highlight.

- 1 Enter Lightwave.
- 2 Load three letters from the Common Font. Your initials, for example.
- 3 Enter Layout, position the letters on the X axis so that they line up properly.
- 4 Go to the Camera View and position the Camera so that all three letters appear within its field of view, and more or less fill the screen.
- 5 Click Create Key, select All Items, and click OK. Exit Layout.
- 6 In LightWave Renderer, click Images, click Load Image, and select the RefMap image.
- 7 Click Surfaces, and locate the surface named CommonFronts.
- 8 Set: Surface Color to 240, 180, 40. Diffuse to 30% Specular to 65% Color Highlights to ON.
- 9 Set the Reflection Map level to 70%. Beside the Reflected Image window, use the up/down arrow to locate the name RefMap. This assigns that picture to be the reflected image.
- 10 Do the same steps (9 and 10) for the CommonSides surface.
- 11 Click Save Scene and give it the name Highlight.scene.
- 12 Render the image.

The image you render will contain gold-colored letters with a brighter highlight beam angled across their surface.

To Animate Beams Across the Letters (single frame controller required)

- I Clear the scene.
- 2 Load the Null Object.
- 3 Select the Camera, click on Target, and select the NullObject as the target.
- 4 Select the Light, click on Target, and select the NullObject as the target.
- 5 Load the three letters that you used earlier, but do not position them yet!
- 6 Now select these items, one at a time, (the three letters you loaded into LightWave, the Camera, and the Light) and perform the following steps for each:
- a Select the item
- b Click on Parent
- c Select the NullObject

- d Click OK
- 7 Click Create Key, make sure the frame is set to 0, select All Items, and click OK.
- 8 Select the NullObject, click Rotate, and click Numeric. Enter 360 for Heading. Click OK.
- 9 Create a key frame for the NullObject at frame 30.
- 10 If you wish, make a preview to check the animation.
- 11 Render the 30-frame animation sequence.

The final animated scene will depict beams of light moving across the faces of the letters. With all items "locked" to the null object, they will rotate as one. They will not appear to be moving. The reflected image cannot rotate, therefore its reflections will move across the surface of the letters.

How It Works

The trick is in understanding how 3D rendering is performed, and how the Reflected Image is utilized. All objects loaded into LightWave are considered to be "inside" a huge hollow sphere. The Camera, Lights, Objects, all are within this environment. This is the 3D world.

When you select colors for Zenith, Sky, Ground, and Nadir (the Backdrop settings), you are selecting the colors that get placed at the top of the sphere (Zenith), the upper middle (Sky), the lower middle (Ground), and bottom (Nadir). If you were inside a huge white ball, and had a paintbrush and a paint set, you could paint the illusion of a white sky blending into a bluish horizon, then a brownish ground below. This is exactly what LightWave does. If you render a scene with the camera aimed upward or downward you will see that these areas are rendered just so.

The reflected image, in this case RefMap, is in essence "pasted" to fill the inside of this sphere. Only the objects that have a reflection map listed within their surface settings will reflect this image. The Reflected Image window allows you to select the image to map onto the inside of the 3D sphere. Everything else will reflect the Backdrop colors that have been set. The RefMap image that you used in the tutorial above will cause a reflection of white stripes to appear on the surface of the object. The way the image is "pasted" into the spherical shape of the 3D world, you may see several iterations of the

highlight. The 30% Diffusion value ensures that a small amount of the object's own color "shows through" the reflection. (An object that mirrors the Reflected Image at 100% with Diffusion at 0% will only reflect the black image with the white stripe. None of its own color will be visible.)

For general purposes, then, a full sized image will map roughly into the entire sphere for reflection mapping. If you use a smaller image, such as a brush, it will be stretched to fit the entire sphere. A small brush (even an inch or two on a side) cut out of a streaked marble pattern makes for a terrific reflected image with metallic surfaces.

Further Note about Backdrop Colors

The Sky and Ground are colors against the background, well behind any objects in the scene. If you have ever loaded a few objects into LightWave 2.0 and rendered the scene using the default Backdrop Colors, you may have wondered why these objects cast no shadows on the apparent ground that is right behind them. Well, the ground is not right behind them. It is far away in the distance, providing the appearance of a sky and ground being right there.

For a true ground, you would need to load in a ground object, such as a flat plane, or a rough and rocky one, or anything you desire. This object would be able to show shadows cast by the objects within the scene. The Backdrop Colors are another tool for use within the 3D environment.

A Final Note

If you watch CNN at all, you will often see a commonly used effect: semi-transparent bevelled boxes (used as backgrounds for lines of text) with glints and gleams. The highlights are created using the same trick outlined above. If you then set Object Dissolve to a practical percentage, you can achieve the same look. Such rendered images make for terrific CG backgrounds when designing charts, layouts, and stats.

See if you can work out this one (which I'll cover next issue): Making an object or element transparent is simple, especially with Object Dissolve. How would you make a object appear to fade out, as if it were semitransparent at one end and totally transparent at the other? This is commonly used by the major networks for station identification, feature movie introductions, and sports. Work on it, and I'll let you in on the secret

next issue.



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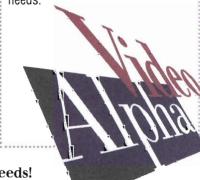
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Dear John

By John F. Gross



elcome to another Dear John Column where all of your intimate Toaster questions are answered. Let's see what we have this month:

sual coordinator at a nonprofit medical institute. When I got here I found all the equipment in disarray, along with a new Video Toaster connected to our cuts only VHS edit system. I have been trying to put together a work area where I can use the Toaster switcher with two video sources. We have the personal TBC cards installed. Is there a way to make a quasi-A/B roll system?

Michele Lash Kennedy Krieger Institute Baltimore, MD

only editor, chances are you will never be able to get it to control two source decks. However, I know of a number of people that are manually prerolling source decks and hitting play on both then performing a Toaster transition at the appropriate time. While this is usually hit and miss, it can work. You can easily use the Toaster for pseudo-A/B roll editing with a single source tape however. The key is to freeze a frame of video at your edit out point on the first source footage, then use that framestore as the source for the transition to the next video segment. Since you will be doing a dissolve or some transition right at that point, you often will not notice that the video has stopped moving.

Toaster as a switcher for a "live" two-

camera set up of satellite presentations. My problem is that since we don't use floor managers, our talent never knows which camera is ~hot". Do you know of any type of tally light system (little red light on active camera) in existence or in development for Toaster users?

Larry Raymundo HomeBase, Inc, Fullerton, CA

light systems for the Toaster yet. If you know Arexx, I think a program could be written that constantly checks the condition of the program output of the switcher and could then serially control a device that turns tally lights on and off. (I said I think!) Maybe somebody will come up with a system and let us know.

which a surface moves in the textures "velocity" parameter in LightWave? How do I change this?

Paul Toal

Via Compuserve

age maps can be moved across the face of a surface by inputting values into the X, Y and Z fields of the Velocity requester (within the Textures screen). This value is expressed in units per frame. Since we like to use metres in LightWave, we are talking about meters per frame. For instance, If you are looking at the X and Y planes of a surface that is 30 meters wide and tall, changing the velocity parameters to I for both X and Y causes the texture to move diagonally up and to the right in each frame. After one second (30 frames), the texture will have completely moved

"off" of the surface. Be aware however, that the texture will keep repeating itself on the part of the surface that was just passed. In other words, If you wrap an image on the front of a box that is one metre square, and change velocity for X and Y to .5, you will see that the image is broken into four quadrants on the front of the box — The bottom left of the image will be in the upper right of the box and vice versa.

Q = I subscribe to both AVID and VTU, but I've never seen any articles discussing how to create video titles such that they appear in the "safe" area of an overscan screen, nor how to insure your overscan screen is centered on the recorded tape such that it plays back correctly on anybody's video equipment. I'd like to know because I just got a Video Toaster and I'm having difficulty converting some of my old Deluxe Paint images into the proper size and centered in the Toaster's framebuffer. Is there a simple way without enlarging the image or distorting the aspect ratio? I also had problems with DPaint and a genlock where the recorded 3/4" signal looked fine on my overscan monitor, but was shifted up and to the left on the TV station's equipment. Are there similar gotcha's with The Video Toaster? I guess it is possible for the Preferences screen alignment to affect genlock output, but does it affect the Toaster's Program output?

Richard Norman

Via Compuserve

The safe area of an overscan screen is basically the non-overscan area. That is the area that is 640 pixels wide and 400 pixels tall from the center of the

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screen. Since a Toaster image is 752 x 480, you would need to paint in the area that is 56 pixels from the left and right edges and 40 pixels from the top or bottom edges. You might want to create an image that has a 640 x 400 rectangle centered in the middle and use it in the spare page of Toaster Paint as a template. When you load an image into Toaster Paint that is not full Toaster size, it loads into the upper left hand corner of the screen. You could cut out the whole image as a brush and center it using the coordinates but there is an easier way - LightWave always centers an image used as a backdrop into the Toaster's framebuffer. All you have to do is enter LightWave, select the images button and choose the image you want to load. LightWave will accept any image from two colors up to 16 million. You can also load 2.0-style framestore images (but not 1.0 framestores). Once the image loads, go to the backdrop panel and select that image as the background image. Then all you have to do is select Render (make sure to use High Res). The resulting image is a 752 X 480 framestore with your image centered perfectly. You can now bring the image into Toaster Paint and fill in the edges if need be. As far as your question about DPaint and the genlock - yes, the Amiga screen preferences will affect the position of the genlocked graphics output, but not the video output that appears underneath the graphics. The Toaster's video output position is not affected whatsoever by the screen preferences. It's always important to check genlocked graphics on a composite monitor that does not have a horizontal position control that is easily accessed by a user. This way you know that your graphics will appear correct on most video equipment.

brushes (like most of the screen) in Toaster Paint, what do I need to do to use the display mode that shows most of the screen? When I try to switch to this mode, Toaster Paint says it can't use my brush. There is no way I can place the brush and measure my distance from the edge (else it gets cut off in the rendered picture) without going into this mode.

Brian Jones

Via Compuserve

Toaster Paint can't use brushes in 1X mode, they must be used in 2X mode (the close up mode). You can however measure the size of your brush by letting Toaster Paint do it for you. Whenever you have a cut-out brush attached to your cursor, Toaster Paint will tell you the size by

Before printing, scale the width of the NTSC image down by 12-14%

ton as if you are going to access a menu. With this information it is a simple matter to use the screen coordinates (click on the button that tells you which mode you are in) to place your brush so none of it is cut off.

save framestores from the Switcher to my hard drive, I get horizontal white "dropout" lines in the image when I reload it.

Do you have any idea what is happening?

Peter Castor

Ashfork, AZ

There is a problem with some GVP hard drive controllers and the Toaster which causes the "dropout" you are experiencing. NewTek has developed an update that will take care of this problem in most cases. Talk to your Toaster dealer to obtain the fix. I have also heard that people with DPS TBCs have been experiencing a similar problem and DPS should have a software fix.

using LightWave 3D at Hi-res (1504 x 960). My Amiga has nine megs of RAM and I can load these large IFF's into ADPro for further manipulations. I framegrabbed a headshot with an S-VHS camcorder and then grabbed the buffer into Toaster Paint, where I could save an

RGB at 752 x 480. Back in ADPro, I composited this headshot into the large IFF, saved it to a TIFF, and then had a bureau handle the printing. Although this worked fine for the client, I noticed some pixel aspect aberration, a stretching horizontally of the headshot. The ADPro manual discusses the pixels in an NTSC screen which are not square, and the pixels produced by scanners and 3D modeling programs which are perfectly square. To further perplex, the actual aspect ratio of a given screen varies from monitor to monitor. So I can correct aspects precisely inside ADPro, but if my monitor is also incorrect, it's difficult to predict the printed outcome. Is there a formula to correct the aspect ratio of an NTSC image when compositing into a 3D modeled image and better predict the printed output?

Hank Hehmsoth

Music Design Group

Austin, TX

A= The graphic artists that I have talked to generally tend to scale the width of the NTSC image down by approximately 12-14% before printing. One way to make sure the monitor you are using is adjusted correctly is by using Deluxe Paint in Be Square mode. If you draw a square in the middle of the screen and use a ruler (plastic or wood) to measure both the tops and sides, you can adjust the height and width of your monitor until the square is square. This will get your monitor pretty close to correct aspect ratio. W

John F. Gross is a Video Toaster graphic artist employed by Alpha Video in Minneapolis. He has been using a Video Toaster every day since tt was released and is still trying to catch up on his sleep.

Questions can be sent by mail to: John Gross Alpha Video 7836 2nd Avenue South Bloomington, MN 55420 E-Mail on Compuserve at 71740,2357.

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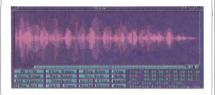
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Taming the Wave

By David Hopkins



ey! Nice to see you again. I've got lots of important stuff to pass along, so we should get right to it.

First, and foremost, I want to let all the folks who have purchased the Motion Man object from AntiGravity Workshop know that there's a new version. That's right, an upgrade to a 3D object! It's an interesting world we live in, eh? At any rate, it seems that through some "accident" in the production process, AntiGravity shipped a beta version of the object by mistake. If you load any of Motion Man's pieces into Modeler and check them out, you'll notice that every polygon is duplicated. I'm not talking about double-sided here, I'm talking duplicated. This serves to increase not only your rendering time and amount of memory used, but also causes render errors. If you send in your registration card, you'll receive a free "upgrade" to the new version, known as 1.01.

The next logical step is to discuss the object. As you may or may not be aware, Motion Man is a detailed 3D model of a man for use with LightWave 3D. Originally released for use with Imagine, Motion Man contains more than 60 moving parts, from legs, arms, and head to fingers, lips, and eyelids. These guys don't fool around! There's only one real problem...it hasn't been as "re-designed" for LightWave as their promotional materials imply.

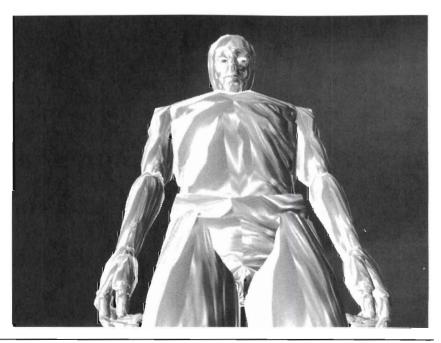
Not only is Motion Man still built

entirely out of triangles (a requirement for Imagine), but the entire structure of the guy is reversed. I could probably live with the triangles, but the backwards construction bothers me. According to the folks at AntiGravity, this is done to maintain the integrity of the Imagine version. Being built upside down means that every movement that you wish to make must be defined opposite the expected direction. This is very disconcerting if you are working on a complex motion. My feeling on 3D objects is that they should support all of the features of the program that it is made available for, not just a direct port. They told me that if there is another upgrade after this one, they'll probably correct his orientation, but it depends on the response of the public as to whether this happens or not.

Finally, the Motion Man is way out of

scale. Well, he's in scale to himself, but not much else. When any of the supplied scene files are loaded, he's huge. AntiGravity claims that he is "truly a giant in the 3D field." At least they've got a sense of humor about it! They also told me that scaling him as a whole is a simple matter of scaling the "Lever" portion of the object if you have the original version, or the "Body Parent" portion if you have the new update. I was told that in that possible next upgrade, they may rescale him for us as well.

Despite all of this, I really like the guy. While he's not perfect, he's as close as I've seen for LightWave in the human-being area. He's got plenty of parts to move around, so you can pull of just about any type of movement you want. Keep in mind, however, Motion Man is one big guy, and not only in the scale



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sense. You'll certainly want an accelerator and extra memory for this fella! Suggested Retail is \$149.95.

Here's another idea for those of you that want to pull off a sort of surface morphing...(Check my column in AVID for a different one, BTW)...Make use of Image Sequences! If you want a surface to evolve from, say, bumpy to flat, render a number of full screen images using various levels of bumpiness. Make sure they all have the same prefix, and number them to match the frame number you wish them to appear in. Use the sequence as an image map. It works!

I try hard not to duplicate information that has appeared in my AVID column, but in this case I feel it's warranted. Unili Graphics has released a whole slew of new 3D fonts for LightWave that are absolutely amazing. Under the Broadcast Fonts 3D banner, you'll find two new packs of 9 fonts each, plus an update of the original nine (that's right, another 3D object upgrade!). Unili has developed a program that converts outline fonts into 3D using some incredibly accurate math formulas. This results in remarkably smooth sides on letters which you can fly right past with nary a facet in sight. Each pack sells for \$149.95 and is worth every penny. If you bought Pack One before April 1, 1992, you can get the enhanced version for only \$10. Or, just go full bore and get all three packs for only \$395! I rate these fonts as some of the most important 3D objects I own, and so will you.

Have you ever needed to move animation pieces from one drawer to another after you've set up a scene? If you have, you know this often results in having to point LightWave to each file that's been moved next time you load that scene, an ardous task at best. There is a better way. Edit the Scene file! The Scene file is simply a text file, which can be loaded into any word processor, or

even the standard WorkBench ED program. I'm using ProWrite from New Horizons (a fabulous word processor that actually convinced me to stop using Microsoft Word on my Mac...after almost seven years!), and find it to be very simple indeed. If you have the same package, or another that asks, tell the program to place linefeeds after paragraphs only, make your changes, then save it as a ASCII text file. The structure of the Scene file is astoundingly clear, so you should have no problem figuring out what to change.

Elsewhere on the "new toys" front, I got a chance to examine a very nice set of aircraft objects from Overscan Images recently. For only \$39.95, you get four different airplanes from the World War II time period, each modeled to scale. Unfortunately, while the planes sport a great deal of detail in their structure, they don't have anything as far as markings. What good is a Japanese Zero without the infamous Rising Sun insignia, for example? I've discussed the matter with the folks at Overscan and they tell me that they'll be adding various markings and other goodies in a future release. Of course, if you need these aircraft immediately, you can always do it yourself, can't you? As far as aircraft go, these are right on the money.

While I was speaking with the Overscan folks, we got on the subject of how to produce the effect of working machine guns for the planes. I suggested a technique which I've found to be quite useful for a number of things, and you probably will too. I'll explain the concept in relation to the guns. Create a separate object the size of the gun barrel interior. This should be a simple, flat disc, with one polygon facing each direction for a total of two polygons. One of these polygons should be defined with a black surface, and the other a white. By setting this disc inside the barrel of

the gun and spinning it, 180 degrees each time, a flickering effect is achieved. Now, how else could this trick be used? How about the headlights of a car? Or the mouth of a talking character (check out the old Money For Nothing video by Dire Straits)? Or a blinking drive light on a Toaster Workstation? The possibilities are almost endless. And remember, they can be any two surfaces, not just black and white. Keep in mind, however, that the surface should be perfectly centered when it is built or the rotation won't give you the expected results.

Do you use your Toaster exclusively for LightWave? If so, you can clear out a whole lot of space on your harddrive. First, make sure you are using the "Get Small" project in the Toaster Prefs, then exit the Toaster. This will cause that project to be used as the default when you load the Toaster next. If you don't use the Switcher effects, you can dump the entire Toaster/Effects drawer. If you don't use the CG, get rid of those darn ToasterFonts (they're huge!). Also, if you don't normally make use of the NewTek-supplied 3D object library, copy them onto a backup disk and delete the ones on your hard drive. If you find you need those objects back, just use them off of a disk. If you need the other stuff back, however, you'll need to reinstall the Toaster software, but I find that I don't need them on most of my machines at all simply because I don't ever use those portions of the Toaster.

I didn't get to make it to SIGGRAPH in Chicago this year due to the time constraints of producing my "Taming The Wave: Exploring NewTek's LightWave 3D" Training Package, but the word from those who did attend is that NewTek was the star of the show. I understand they hosted a huge party where they showed some tape of things they are working on as well as new clips from Todd

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Rundgren's Theology reel. There was continue to meander around on my own, no announcement made of an upgrade, but I, for one, can hardly wait. I mean, really, it's been about six or seven months since 2.0, right? Haha...

Well, that's about it for this installment. I want to take a moment to invite all of you to get in touch with me at:

Mach Universe 625 The City Drive, Fourth Floor Orange, CA 92668 Attn: David Hopkins

You are encouraged to pass along hints tips, suggestions, comments, new products for review, demo reels, frameStores, press releases, or anything else you'd like. This column is here to support you in your efforts to improve your LightWave skill, but it's tough to do without hearing from you. If, however, you don't write, I'll just have to

but that doesn't answer the particular LightWave question you have at the moment, now does it? Send it in! If you're trying to figure out a way to pull off an effect, send that in. I'll see what I can do, plus present it as an open forum for others to try to solve in their own way. It could be very enlightening for all of us!

To get that rolling, let me present you with a problem to solve...if you can come up with a solution, send it in! I'll give you credit for your effort, and maybe I'll even dig up some really cool item to send as a reward....

Your mission for this month: Animate a waterfall. Try to come up with a convincing "froth 'n' splash" at the base. Can you do it?

Best of luck!

Contact Information:

Motion Man Anti Gravity Workshop 456 Lincoln Blvd. Santa Monica, CA 90402 (310) 393-9747

Broadcast Fonts 3D Unili Graphics 143 Lorraine Avenue Pittsburg, CA 94565 (510) 439-1580

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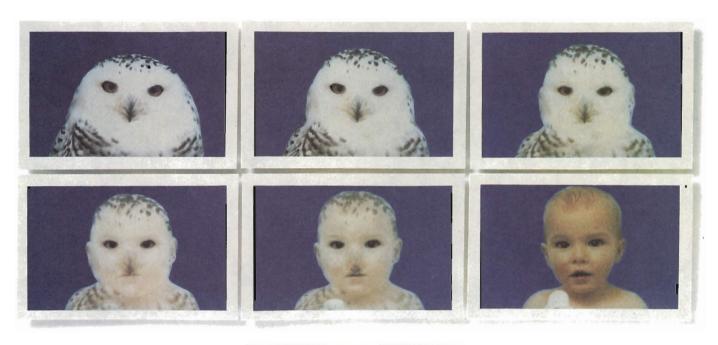
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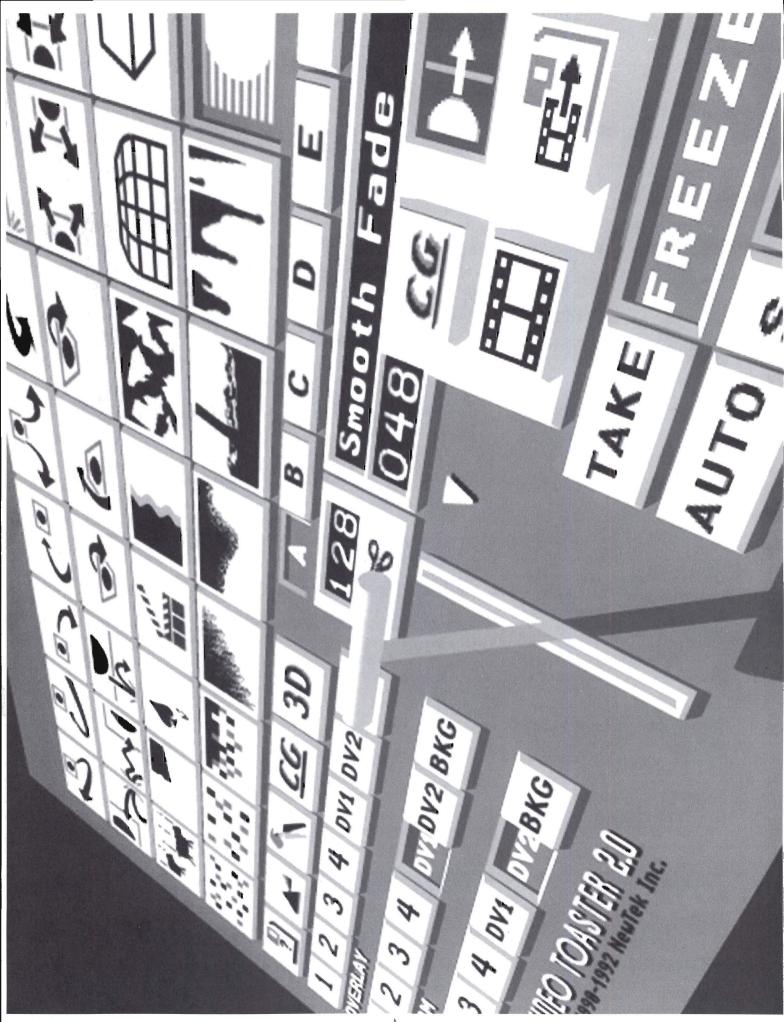








And More!



NewTek's Tony Stutterheim

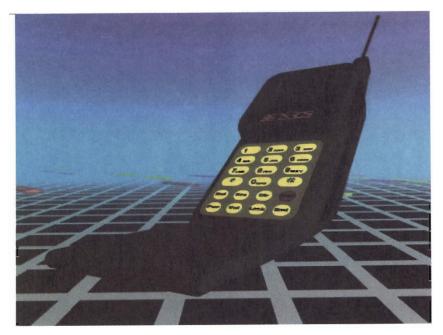
by Lee Stranahan



very life has turning points. Sometimes these forks in the road are obvious, but often they are hidden, even to the person making the journey. What seems at the time like a minor occurrence turns into a life-changing event.

For Tony Stutterheim, the "minor occurrence" came three years ago. Tony was working as a cameraman for Topeka, Kansas TV station WIBW when a reporter asked him to work on a story about a local hi-tech company with a slightly wacky reputation. That company was, of course, NewTek, and that initial contact changed Tony's life.

When Tony first came into contact with NewTek, the Video Toaster was still over a year from being released, but the company—was already developing something of a reputation. "I was already familiar with some of NewTek's earlier products," he recalls. "I'd used both DigiView (NewTek's popular Amiga digitizer) and DigiPaint (an early



precursor to ToasterPaint) as part of my college video studies."

The reporter working on the story left Tony to wander around NewTek on his own. "I was in Nerd Heaven," he recalls with a smile. Some NewTek employees decided to show me around, and, of course, we talked about computers. I'd owned a Radio Shack Color Computer (the CoCo), and some of the programmers had worked on CoCo programs that I'd used."

"At one point they took me over into a corner office. I didn't know exactly what they were going to show me, but everyone at NewTek was obviously excited about it. I saw a TV screen with a 3D-rendered spaceship being spun around with a digital video effect. I can't describe the feeling I had - I knew I was seeing the future of video."

Tony finished the story and continued his work at WIBW. A few months later, he received a phone call from NewTek about doing a video with magicians Penn and Teller.

NewTek Vice President Paul Montgomery says, "We'd wanted to create a demovideo for the Toaster for some time. (NewTek President and Toaster inventor) Tim Jenison was friends with Penn and Tæller, and at dinner one night, Penn had

an idea. He wanted to create a Toaster video - made entirely with the Toaster. No fancy studio, cameras, lighting, or anything. Just buy all of the equipment and make a great demo tape for under \$10,000."

NewTek rented a loft in Topeka, and started interviewing video people to work on the project. "The problem was, no one thought we could do it," says Montgomery. "Everyone we spoke to said that there was no way to make a decent video with a

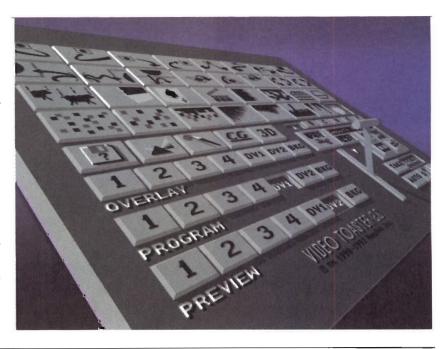
budget as low as we wanted. Then we remembered Tony."

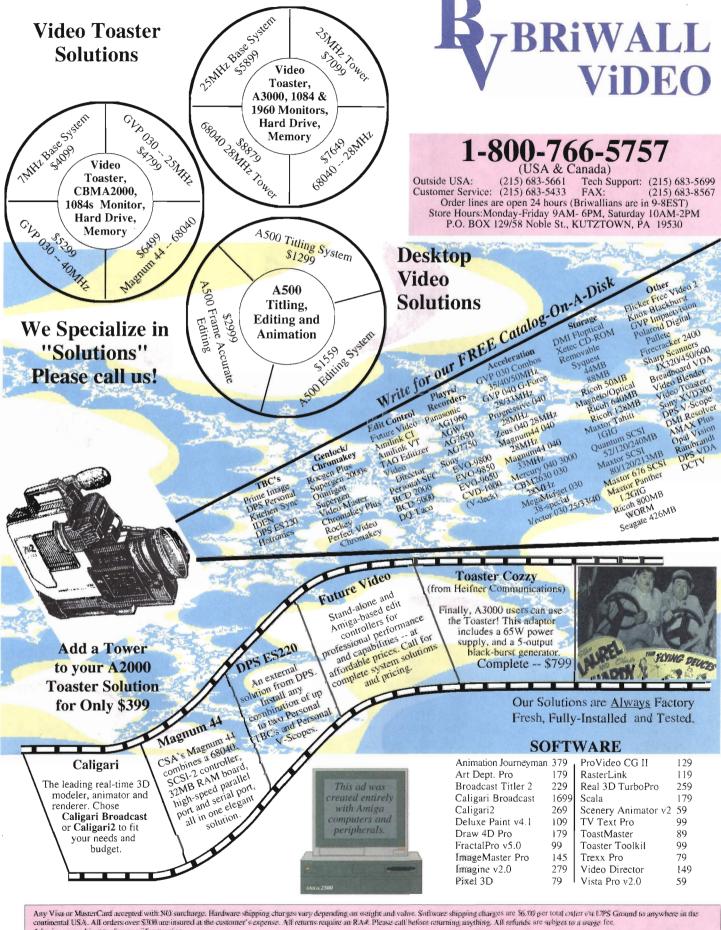
NewTek approached Tony and laid out their plans for their video. Tony was up to the challenge. "They asked me if I was available to do freelance work and described the project to me. I knew it would be tricky, but I also knew we could do it. There were a lot of constraints on us, like using lights from K-Mart instead of a Lowell kit. But it caused me to have to deal with the problem creatively instead of just throwing money at it."

Over the next few weeks, Tony and the others at NewTek put together a video studio. By using Radio Shack microphones, ordinary ladders and two-by-fours as a lighting grid, and tinfoil as lighting barndoors, they were able to do it all under budget.

During filming, Tony served as technical director. He also ran the Toaster, "which at that point had about 10 effects," he says. "It was still at a very early stage of development."

The video, Penn and Teller's Guide To Video Toaster Etiquette, became an instant crowd pleaser at NewTek's convention appearances. It's funny and entertaining, and it showed the world that it's actually possible to make an effective video for under







\$10,000.

Tony's life at WIBW got back to normal again, until one day when he got a call from a reporter at the station. "He was kind of frantic," Tony remembers. "He told me he was in downtown Topeka and he'd found something amazing. There was a company called Nuclear Waste Disposal Systems operating right in the heart of the city. There were red warning lights going off, and DANGER signs posted all over the place.

"I told him to relax - it was probably just NewTek."

Tony was right. NewTek was keeping the Toaster's research and development team, known as Alcatraz, in an office labeled Nuclear Waste Disposal Systems. Tim Jenison remembers, "We had a sign out front with the slogan'Where your family's safety is all but guaranteed.' The strange thing is, hardly anyone in Topeka noticed."

The reporter, WIBW's Russ Potasic, was undaunted. He was convinved there was news here somewhere. Tony and Russ went downtown to do a story on the strange goings-on. After doing several man-instreet interviews, they found that, indeed, few people in Topeka seemed to notice or actually care that much. But the story made it onto the local news, and another slightly

bizarre impression of NewTek was given to Topeka locals.

Tony also put together a "private cut", longer than the one that was put on the air. He brought it in to show NewTek's Paul Montgomery, and Montgomery remembers, "I laughed so hard that I was crying. It was one of the funniest things I'd ever seen."

Soon after, Tony was offered a job at NewTek, and he started by taking over the Tech Support department. He also began working with the Toaster (which was in the final stages of development at the time), and eventually wrote the original manual for LightWave's Modeler. He also did some video production as needed, and found a new way to spend all of his free time.

"I'd worked with some fairly high end 3D systems before," says Tony, "and I was blown away by the power of LightWave. I started working with it in any spare time I had."

After the Toaster's release, Tony went on to work at trade shows and produced a number of video tapes for display at conventions and other events. Soon there was talk of producing another demo tape for the Toaster.

"We always had the plan to do a sort of ultimate Toaster Demo Tape at some

point," recalls Paul Montgomery. "Even in the development stages, we'd think things like, 'Oh, we'll need that feature for the demo.' The Toaster could just do so much, people couldn't really get their brains wrapped around it from just seeing a brochure or magazine ad. They needed a videotape to really see what was going on."

Work began on Revolution, a tape that would eventually be seen by over half a million people. "It took several months from the initial idea stage to completion," says Tony. "Tim and Paul have incredibly high standards, and this was really the first production we'd ever done at this level of quality."

Quality was the watchword on Revolution. "Every animation was output to D2 digital video format, and the whole project was also edited on D2," Tony relates. "Tim and Paul wanted the tape to look as good as it possibly could. The production value on every shot had to be incredibly high. We reshot footage, redid animations and created graphics five or six times, trying to constantly improve the piece."

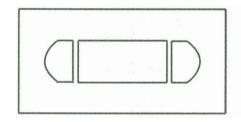
An early cut of the tape seemed too slow, for instance, which required all new music and a total re-edit. Also, Tony and the production team were working with early pre-release versions of the Video Toaster System 2.0 software. "Things would crash sometimes," remembers Tony. "And of course, they'd always crash at the wrong moment - like at four in the morning in the D2 online suite."

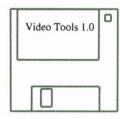
The bugs were eventually all worked out, however, and response to the tape was "...incredible," says Montgomery. "When we were working on the tape, we just wanted to be great and to be finished. We never thought about winning any awards or anything like that."

The tape has won several awards, though, and through free giveaways at conventions and via an 800 number, over 125,000 copies have been distributed. The tape is one of the most successful promotions ever in the computer/video industry and helped to establish the Toaster. Montgomery gives much of the credit to Tony.

AmiWare Toaster II Training Tapes







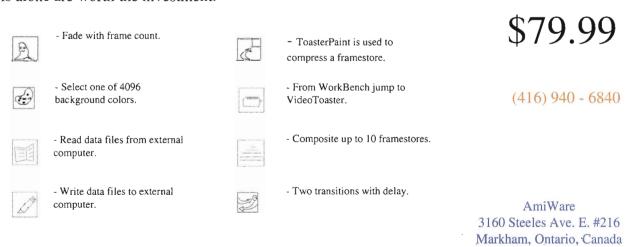
L3R4G9

It sure has been an exciting time at AmiWare for the last year and a half. NewTeks VideoToaster and RGBs AmiLink Edit Controlers have been hot sellers. With over eighty VideoToaster installations we have gained incredible knowledge of the products. You may remember the article in the January issue of Avid Magazine which we submitted on how to create custom VideoToaster wipe patterns.

When we sell a VideoToaster system to our customers we include three hours of training. Now you too can attend the same training course. The AmiWare Toaster II Training Tapes cover the following areas: *Detailed coverage of the switcher *Custom wipes with the art card *Composite video using ChromaFX *Graphic artist Jeff Evans brings you through the powers of ToasterPaint *Each gadget, requestor, and slider will be explained *Examples of 3D buttons, Embossing, Tiling, Compositing, Shadow Creation, and Image Compression will be given *From A to Z will be covered in the ToasterCG slice *Fly in titles with LightWave 3D *Using ARexx we will show you how to control your VideoToaster from an external computer.

In addition to the three hours of VideoToaster training we have included an hour of interviews with manufacturers. Meet Terry Smallwood of Nucleus Electronics, the inventor of the Personal SFC. Terry will bring you through the process of recording an animation to tape. A design engineer from Digital Processing Systems will talk about the use of the Personal TBC II, and VScope. Graphic Artist and 3D wizard Derek Grime will show you the Beyond Backgrounds Pro Set and we at AmiWare will demonstrate the AmiRoute Router.

Along with the training tapes we have included utility programs to help you with your VideoToaster. The tools alone are worth the investment.



"Like many things at NewTek, it was a collaborative effort," he says, "but NewTek collaborations count on everyone being able to do their part without a lot of hand-holding. Tony is just a great allaround video guy. Whether it's shooting, editing or creating animations, you tell him what you want and he says 'I have a vision.' Then he comes back with something great."

After Revolution, NewTek's video needs grew. Tony helped put together Alcatraz Post, NewTek's Betacam SP production facility. 'Traz Post has put together a number of promotional tapes for NewTek, as well as projects like a test TV commercial for the Toaster.

What's next for Tony? "I plan to start doing more and more with LightWave 3D. Artists like Joe Conti and Ron Thornton have set the standard for LightWave, and I'd like to start to work at that level."

He's already started work on some "double secret" projects. "I can't quite talk about them yet, but keep your eyes open," he hints.

REVOLUTION Tips and Tricks

While Revolution is the ultimate Toaster sales tape, NewTek had another goal in mind when creating the award-winning piece. "We wanted to show people what was possible with the Toaster, and to set the standard for Toaster demo tapes," says NewTek Vice President Paul Montgomery. "Before Revolution, the tapes that we'd seen tended to be very bad. We thought that it might actually hurt the perception of the Toaster. Even many people who owned the Toaster didn't seem to know what it could really do."

Revolution certainly achieved its goals - it's an amazing tape. Unfortunately, the average Toaster Each segment was rendered individuuser at home still doesn't know how to achieve some of its stunning effects. Now, for the first time, some of those secrets are re-

vealed. Pull out your copy of Revolution and follow along with the effects.

The tape starts off with a series of titles - "Every transitition...digital effect...title...graphic...and animation....you are about to see..." It's a very effective text effect, and according to animator Tony Stutterheim, "Very easy to

Tony used a font from the Masterpiece set of bitmapped fonts, and converted them to 3D objects using Syndesis' Interfont utility. Once the text was converted, LightWave 3D was used to create simple motion paths for the objects. "Render times were incredibly quick," says Tony. "Just a few seconds per frame. The computer just isn't dealing with that much information."

ally, and then edited together using simple dissolves between the segments. The same technique is using for opening different sec-



tions of the tape (Four Input Switcher, ToasterPaint, etc) and provides a sense of thematic unity to the piece. "I've used LightWave for CG-type effects on a number of tapes," Tony relates. "It's a very versatile tool."

The "Old World to New World" animation that follows is a jaw-dropper. It was created by LightWave 3D author Allen Hastings, who did much of the animation in Revolution. When the "Old World" morphs into the "New World", it's a very dramatic moment that takes the whole video uptempo. Many wondered how the effect was achieved, since LightWave doesn't currently support morphing.

The trick is that the two globes are not actually the same size. The "New World" object is actually a little bit smaller than the "Old World" - it was scaled by a factor of about .985 in Modeler, During the animation, the smaller New World globe was parented to the

slightly larger "Old World". This made the New World invisible (since it was hidden inside the larger object).

In order to create the transition, LightWave's Object Dissolve function was used. This setting (in LightWave's OBJECTS menu) determines the overall transparency of an object - at 100%, the selected object is completely invisible. An envelope was used to change the dissolve value of the "Old World" object over time. By slowly dissolving the Old World object away, the New World object inside of it was revealed and an effect very similar in appearance to surface morphing was achieved.

Many people also wondered about the use of the Toaster's Luma Keyer in the scene where Kiki is standing in front of the weather map. "As much trouble as people think lighting and everything else is for luminance keving, that scene was actually one of the easiest shots in the whole tape," laughs

Tony.

"The lighting was very simple - just a standard three-point lighting with an even throw on the backdrop," Tony says. "We used a white backdrop, because it works better than black for this type of keying. The thing to watch out for is areas of white on a person - eyes and teeth, and obviously no white clothes. The quality of the keyer was also greatly improved for System 2.0. The only trick is that you need to load whatever graphic you're using into DV2. Otherwise, there may be noticible edging along the right hand side of your key subject."

Revolution has a number of techniques in it that would benefit any Toaster user. It's almost a textbook of what is possible with the Toaster - one that you might to take out and study every once in a while. In future issues of VTU, we'll ask Tony Stutterheim to reyeal more tips and tricks from the making of Revolution.



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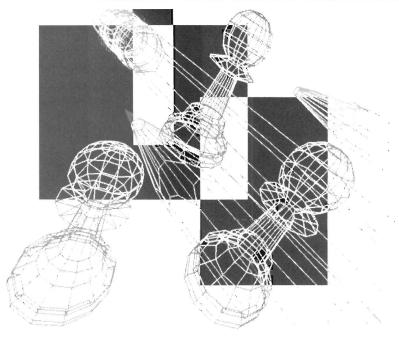
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By Bob Hovey



surface the morph—surely one of the most welcomed features of the new Toaster 2.0 upgrade. I read the manual with joyful

anticipation as I installed the software and there it was in glorious black and white. A few moments later my heart sank when I discovered the little note in the addendum stating that the feature didn't make it but would arrive next time. Sure enough, when I made my way through the Lightwave menus, surface morphing was nowhere to be found. I wasn't all that upset since there were so many other new things to play with. But with Terminator 2 and Michael Jackson's Black or White video, it seemed as if every other client that came through the door was asking for morphs. We would show them what we'd done, spots where logos would skew and pop back or objects that would bend this way and that, and they'd look at us like we hadn't heard 'em right.

"That's not a morph. Take my logo and make it turn it into a lady mudwrestler...that's a morph."

"Hey, we can do that," we said. "But you're gonna have to settle for a chrome mudwrestler or a dirty, sweaty logo."

"Hmmm...well, let's just go with the chrome fly-in an' gleam like we did last time."

After a bit of thinking (when you have only one Toaster to render with, you have plenty of time for thinking), I began to realize that there was a common thread running through all the articles on morphing that had crossed my path. They all mentioned that transparency had played a part in most high-end morphs. Come to think of it, transparency by itself can give a pretty good imitation of a morph. I had already done a nice animation of a rolling stone wheel that turned into a wagon wheel which in turn faded into a chrome mag wheel and tire. We showed it to most of our clients and so many of them assumed it was a true morph that I eventually got tired of trying to explain the difference.

What made the wheel animation work was the fact that all the shapes were round. Fades will work just peachy if all your objects have the same shape. Oh, I had a few problems lining them up since the wheels were viewed obliquely and they were of radically different thicknesses, but by and large the effect worked. If that effect could be combined with the morphing of shapes, we might have something.

The morphing of shapes in Lightwave is a snap. You begin with a source object and set the second object as the morph target. After specifying the number of frames over which the transition will occur, you kick back and let the Toaster cook. There are two significant limitations to this process. First off, the source and target objects must contain exactly the same number of points. Second, the morph derives all its surface attributes from the source object; the target has no say in the matter.

The first limitation is bothersome, but something we can live with. Most of us simply use Lightwave Modeler to poke and prod a copy of the source object until it becomes the target object. This is an oversimplification of course; for complex transitions you may need to multiply the number of surfaces (using the Triple button in the Polygon menu). You may also find that a single morph may present you with some unexpected surprises, and thus a multiple morph may be necessary (see David Hopkin's Taming the Wave column in the April/May issue of VTU for an excellent description of how to accomplish this).

The second limitation is more of a problem. Morphing one shape into another while their surfaces remain the same works when you just want to twist or skew a logo, but most of us want more than that. Guess what? With a little bit of effort, you just might get the effect you want. You won't have the simplicity of simply setting a source surface and a target surface, but it may get you over a few hurdles until the next Lightwave upgrade (we've been assured that surface morphing will indeed be ready to go next time).

Lets try a simple example. What we'll do is take a chesspiece, which we already have in the games drawer, and morph it into a pencil. By the way, there is also a pencil object in the Household drawer, but the point count is different; rather than deleting or adding points to this object, we'll just go

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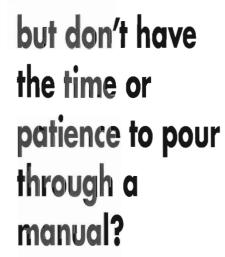
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Card #

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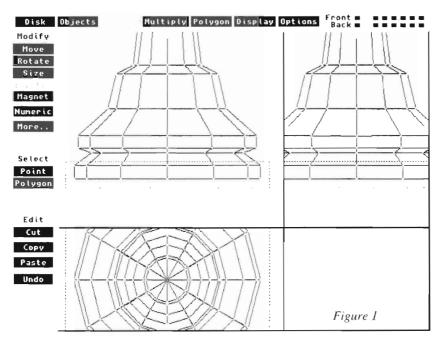
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Lee Stranahan is the founder of the first Los Angeles area Video Toaster user group, original editor & publisher of Breadbox (now Video Toaster User) and author of Toaster System 2.0 tutorials.

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ahead and alter one of the chesspieces instead.

Begin by loading the DarkPawn object from the Chesspieces drawer into Modeler. First off, we will need to alter this object into a cylinder. The easiest way is to select layers in the Back view and shrink them along their X and Z axes in the Bottom view. This process lacks precision when done by hand so I elected to do it using the numeric entry requester. The thinnest part of the pawn was 5 mm in diameter, to which I decided to match the remaining rings. There were two rings that were 10 mm in diameter so I selected them, then picked Stretch and "numeric" and entered .5 in the X and Z boxes. Click on "Ok" and the two rings will jump into line with the smallest ring. Repeat this process until you are left with a cylinder of consistent diameter (to make this a bit easier, just use the following factors for each ring, from bottom to top: .227, .227, .28, .238, .238, .357, .417, .625, 1 (no changes), .357, .9, .5, .4, .4, .5, .9).

For readers relatively unfamiliar with LightWave Modeler, here is a step-by-step method for the procedure outlined above. As displayed in the Back view, each horizontal line in the pawn object is a "ring", or a circular cross-section as viewed from the top. Load the Darkpawn object and zoom in on the lower part in the Back view, as

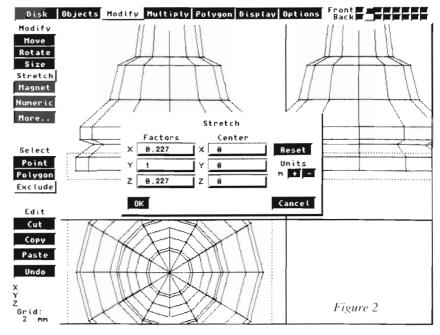
shown in Figure 1, using the Display menu controls. Click once on Volume on the left side of the screen so that it looks pressed in and the word Exclude appears, then draw a dotted-line box around the bottom two rings, again as shown in Figure 1.

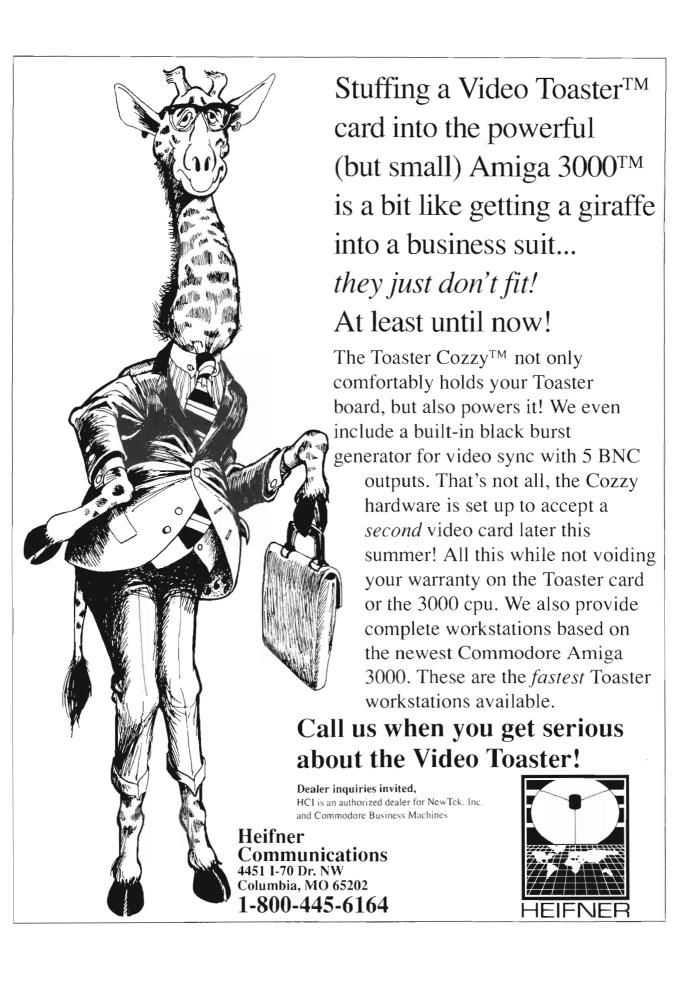
Next click on the Modify button at the top of the screen, then at the left side of the screen click on Stretch, then on Numeric. Enter .227 next to X and Z in the requester's lefthand Factors column. The easiest way to do this is to use the numeric keypad.

When the requester opens, the keyboard entry cursor is in the top left position. You needn't clear the existing setting—just enter a new one. Type .227 and press the Enter key twice. This positions the cursor in the Z box. Type .227 and press Enter. The requester should look like Figure 2. Press Enter three more times. This takes you out of the requester without having to use the mouse. You should now see the resized rings as shown in Figure 3.

Now click once on the Volume box (now Exclude) at the left side of the screen. This turns off the Stretch function and lets you change the volume box. Grab it at the bottom left corner and pull it straight up and over the top edge so that it now encloses the next higher ring. Use the up arrow key to scroll upward through the window if necessary. Click on Stretch and then on Numeric again and enter the next figure—remember, you resized the bottom two rings together, so you're on to the third factor, which is .28. Keep repeating this process for all the rings, but remember you don't have to resize the ninth and smallest ring. For that one, pull the top of the volume box over the next ring up, and the bottom below it.

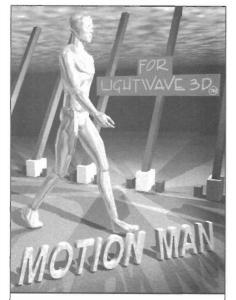
Now that we have a cylinder of consistent diameter, we can finish the transformation. Take the uppermost point and drag it upwards until it forms a cone. Then select





the uppermost ring of points and move it up and shrink it. This forms the ring separating the pencil lead surface from the wood surface. You can accomplish this change of size and location in two steps using Move and Stretch, or you can save a little effort by using Stretch in the bottom view to shrink the ring along the X and Z axes, then move the cursor to the back window and place it on the central axis of the object, just below the uppermost ring, and drag the mouse up (note that the Stretch function can often substitute for Move in this way; by placing your cursor at the proper starting point, you will be able to move objects with more precision, thus saving you from having to zoom in or having to use the numeric entry requester).

At this point (pardon the pun) we have a



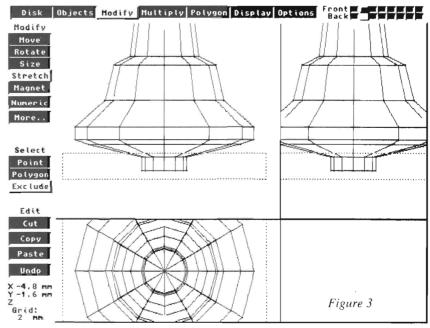
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vaguely pencil-shaped object (that is, a cylinder with a cone at the top). It is still short and fat, so if you want a svelte, new-looking pencil, go ahead and change it by stretching the entire object along the Y axis and slimming it down along the X and Z axes (go easy on the slimming; the altered pawn was already pretty close to the diameter of a real pencil). Increasing the height by a factor of 2.5 or so should give you a fairly proportional pencil.

Next we need to form the eraser and ferrule. Take the bottom ring and shrink it by about a fourth. Bring the next ring down until the edge connecting the two rings appears to be about 45 degrees in the back view. This will be the rounded tip of the eraser. Select four more rings and move them down and closer together to create the ferrule; they will form three bands, two shiny brass ones separated by red. This finishes our model, unless you want a hexagonal pencil instead of a round one. If so, you'll need to flatten the pencil's sides. Select alternating points in the body of the pencil (each ring of the pawn object is composed of 12 points) and shrink them in the X and Z axes until you have flat sides. Then take the lowermost hexagonal ring and drag it down as close as you can to the first ring of the ferrule (which should still be round). Now you are done with the

modeling and can create and assign the following surfaces: PencilLead, PencilWood, PencilBody, PencilEraser, PencilRed, and PencilBrass. But before you assign these surfaces, save your object with its original Pawn surfaces as Pawn. Target. Then assign the pencil surfaces and save it as Pencil02 (add a number suffix to avoid confusing it with the pencil object that came with the Toaster).

The next step is to count your rings and their corresponding surfaces, and write them down on a piece of paper. Delete the pencil object and load in the original DarkPawn. Carefully count the rings and change the surfaces so that they match those of the Pencil object. When you're done, save the altered pawn as Pencil02. Source.

So far, so good. We now have four objects, each one different, each one ready to play a part in the transformation. Load the objects into Lightwave and set them up as two morphs, using whatever framecount you feel comfortable with. DarkPawn morphs to Pawn. Target (the pencil shape with pawn surfaces) and Pencil02. Source (the pawn shape with pencil surfaces) morphs to Pencil02 (the final object with pencil shape and surfaces). Thus we're morphing between different-shaped objects with like surfaces. Since we want the pawn's surface

to gradually give way to that of the pencil, the next step is to create a transparency envelope for Pencil02. Source that begins at 100% and ends at 0%. Then, as we render the animation, the colors of the pencil will gradually replace the black of the pawn. Remember not to fade the underlying source surface out as the target surface is fading in. Otherwise, halfway through the transition you'll have two objects that each have 50% transparency which means you'll end up seeing 25% background and 75% object (the first object lets 50% of the background through, and the second object filters 50% of that 50%).

Right now, we should be ready to render, but there's one little problem remaining... When two planes occupy the same space, Lightwave can't seem to decide which one should be in front. This produces some unexpected (to say the least) effects. Surfaces will wink in and out, flash back and forth... a real 60's experience. Done on purpose, it's a wild effect, but when you are expecting a smooth transition from one surface to another, it's the last thing you want.

What we have to do is make sure that the target surfaces (those of the pencil) are between the camera and the source surfaces (those of the pawn). In this particular example, it's a piece of cake; just note where your camera is (let's say we have a head-on shot from the negative Z direction) and move the object (Pencil02.source) that way just a tiny bit. Note that if your camera moves, you'll have to move the target surface object as well to make sure it stays between the camera and the object containing the source surfaces.

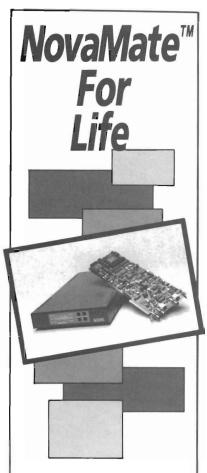
Of course you could always return to Modeler and make the target object bigger. It doesn't have to be by much, even a few nanometers will do it. However, you'll have to do this a few polygons at a time since just enlarging the object globally only works with simple objects like spheres and cubes (if you do try this with a simple object, then you may as well resize it in Layout; no need to return to Modeler). For instance, our pawn has a protruding ring just under the little sphere at the top. Enlarging the pawn will cause the top of this

ring to move up, thus covering the source pawn's surface properly, but the under surface of the ring will move up as well (since it is above the object's midpoint) and will end up behind the source pawn's surface. So you may have quite a bit of work ahead of you if you intend to enlarge an object to accommodate a moving camera shot.

Before you exit layout, be sure to move the two pencil-shaped target objects, Pawn.target and Pencil02 left or right out of the camera view. Remember, LightWave doesn't care about the positions or angles of target objects; it only uses them for shape, getting position and angles from the source objects. Don't forget to lock them in place with Create Key All.

When you render the animation, you should see a very smooth transition from the dark color of the pawn to the brightly multicolored pencil. Looks great, doesn't it? Just for the record, this technique of using a transparency envelope does not produce a true surface morph. If we were really morphing surfaces, a highly reflective object morphing into a matte object would gradually lose its reflectivity. With the above method, however, the object remains reflective as it is progressively "covered" by the matte target surface whose transparency is diminishing. The difference is a subtle one, but you should be aware of it just the same. You may have to play with the spline in the transparency envelope to get a transition that looks real (though to be honest, "reality" is not truly a factor; when was the last time you saw a pawn change into a pencil, anyway?).

I think you'll find this technique pretty handy, and though it involves a bit of work, it'll certainly expand your repertoire of effects. Though surface morphing as implemented in the next Lightwave upgrade will certainly win out in the ease-of-use department, you may discover in the meantime, as I have, that the above method does everything you need it to. Well, almost everything... I'm still having a bit of trouble with the lady mudwrestler.



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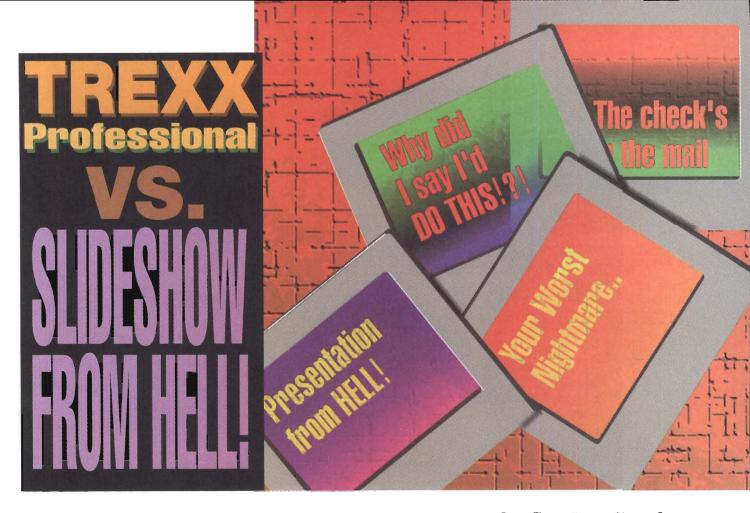
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aced with a sequencing task of Gargantuan Proportions. hero's sanity is in grave danger. Can he make video us-

ing the Toaster with only one camcorder and no TBC? Can he successfully dump 120 CG pages to tape in real time while recording an audio track?

My first paying Toaster gig came from an art gallery in Rochester, New York. The Deaf Artists of America gallery (DAA) had received donations of portfolio slides from over 20 artists around the country. These slides were to be compiled into a slideshow with soundtrack that DAA would sell to raise funds for the gallery. The soundtrack was important to be able to sell the tape to hearing patrons of the gallery as well as deaf ones. The director wanted Beethoven pieces for the

soundtrack. After all, Beethoven was deaf in his later years.

If you are tied into the local arts comunity in your area there is a market in this type of production. Traditionally artists submit slide portfolios to museums, galleries and art competitions. More and more galleries and agents are asking to see work on videotape, instead of, or in addition to slide portfolios. A distinctive presentation, in addition to quality artwork, can help a particular artist stand out from the rest of the crowd.

Here was a perfect opportunity to use the Toaster CG, Switcher Effects and Dual Buffers. The only problem was the size of the project. With title and credit slides, the project was 120 "pages" long. That meant two CG books and too many transitions to trigger manually. I would need an ARexx script to control the transitions. I could have simply used the slideshow demo scripts included with the Toaster,

by Stephen Jacobs

but I wanted to use specific wipes in conjunction with specific slides.

I had seen public domain copies of Trexx and decided to get a copy of Trexx Professional to write the script.

Before I could begin using Trexx Professional, I needed to framegrab all the slides; 84 of them to be exact. I had used some of the "Video Store" consumer telecines and been underwhelmed by their performance. I tried to find the type of slide duplicator that screws onto the camcorder lens like an adaptor, but they were backordered everywhere I called. Finally, Bill Lister, a videomaking friend, recommended that I call local corporate AV houses and ask about the Elmo "slide to tape" unit.

The Elmo unit was the perfect answer to my problem. It looks like a standard Kodak carousel slide projector with one important difference: the unit has no lens. Instead, the projector bulb beams directly

onto a CCD in the unit. It has BNC video and genlock output connectors on the back. There are controls for focus, iris and a joystick on top of the unit for optional color balance. Best of all, the Toaster reads it as a live camera input, no TBC required.

I dumped the slides to tape in record time. Saving each slide as a four field "grab" gave me great image quality but ate up over 65 megs of hard drive space. The next step was to create the title pages and create "buffered" pages with text from the original slides. This reduced their size about 200K per slide.

I really would like to see NewTek implement the ability to directly load Framestore pages into the CG in 3.0. Having to switch back and forth between Toaster Paint and the CG eats up a lot of time when you're creating that many buffered pages.

Next I had to decide what transitions to use with which images. Restraint needed to be used here. Using a different wipe for each image would distract the audience from the work of the artists. I decided on using one consistent wipe for the slides with the individual artist's names. For the artist's work, one particular wipe would be used consistently for each of that artist's images. Finally I would limit the overall number of wipes used.

Clearly this was not the place to use Kiki effects or Sports wipes. However, some of the special wipes were particularly appropriate for certain artist's work. For example, one artist did work in marbleized paper. Using the "smoke wisps" wipe to make the transitions between her images was very effective. Another artist painted landscapes reflected within drops of water. The "pour" wipe worked well with these.

Having decided which transitions were appropriate, I was ready to begin working with Trexx Professional. I installed it in my Toaster partition and quickly configured it to my particular system. This installation involved rewriting some of the paths in the TOOLTYPE portion of the Trexx Professional Professional icon and

was clearly explained in the manual.

When Trexx Professional runs, the screen is divided into two major sections. On the left is a window in which you see the English-language equivalent of your ARexx script. On the right is a duplicate of the Toaster Switcher in miniature. In the PD version the croutons are identified using the same icons as in the Toaster software. The commercial version's interface is similar, but the croutons are identified by their text names, not their iconic representations.

Clicking on a "pseudo-crouton" or a command button in Trexx Professional generates either a line in the text window or a requestor. If you click on a Trexx Professional button like "LOAD PROJECT" or "LOAD FRAMESTORE" an Amiga file requestor (and a well designed one at that) appears. Clicking on a Trexx Professional button for commands like CG PAGE or WAIT generates a Trexx Professional Requestor for the page number or numerical value to be entered. After you've entered the appropriate information, Trexx Professional will generate a line in your script containing the information.

If you click on a Toaster interface pseudo crouton, a line of text is entered directly. The text contains the name and number of the switcher effect or command.

The easy part of working with Trexx Professional was building the skeleton of the script. After I'd written a series of eight transitions and they'd run ok, I merely cut and pasted them until I had enough transitions for the whole script. The hard part was editing that script within Trexx Professional.

This 120-transition script used the command "load CG Page" 120 times. Ideally, I would have been able to highlight the CG page number in the appropriate windowed script line, delete the number and enter a new one from the keyboard. Unfortunately, Trexx Professional only allowed me to highlight the full line in the script window. To change the CG page number I had to highlight the appropriate line, click on the CG Page button, bring up the re-

quester for page number, delete the old number, enter the new number and click on the requester to change the line. Ouch.

Being able to edit text in the "script window" in Trexx Professional would be a great help. I realize that what's displayed in this window is not the actual Arexx script. I also realize it might have been possible to edit the actual Arexx script in a text editor or word processor to change the numerical values. Even so, it should be possible to add this level of functionality to Trexx Professional.

Finally my Trexx Professional script was completed. It was possible to run the entire script, from starting the Toaster to fading to black at the end, merely by clicking on an icon.

The actual slideshow ran about 16 minutes. I called up my friend Fred Wagner, the electronic music head, and gave him some public domain Beethoven scores downloaded from various BBSs. Fred was able to use these as a guide to score two musical pieces for me. these were then dumped to audio cassette. Using a "Walkman-Type" cassette player with built in equalization (EQ), I was able to preview the audio through the camcorder headphones. I adjusted the EQ to provide greatest fidelity with lowest motor noise.

Finally all was ready. I connected the Toaster and cassette outputs to the Video and Audio in jacks on my CCDV801. I double clicked on my Trexx Professional Script Icon. When the color bars came up, I pressed record on the camcorder. When the title screen for the video came up, I brought up the music. Sixteen minutes later, I had a finished master tape in my hands.

I could not have completed this project without the use of Trexx Professional. Hats off to NewTek for including ARexx controlability as a feature of the Toaster and to Kludge Code Software for writing a program that allowed me to do so relatively quickly and easily.

Kludge Code Software PO Box 1163 Holland, MI 49422-1163 616-393-9757

By C. William Henderson

ello again! In Part One (June/July 1992) we learned how to work the Color Strip, determine the proper se-

lections from the Chroma Control Panel and tried some manipulations of the Color Table Control Panel. We also devised a crude gauge for RGB values so we can communicate color information and repeat colors as we wish. I hope you copied it (Figure 1) and keep it handy to your Toaster. Then we created a few filters to make color corrections to video images and provide mood enhancement along with Switcher effects for interesting filter transitions. I promised to show you how to save your old ChromaFX before overwriting them with new effects when you exit ChromaFX. See the side bar "Saving Your ChromaF/X". We also learned how to use ChromaFX on framestores, but the result is peculiar, not being exactly the same as with moving video. And you cannot save the results to disk, but must output to tape and freeze-frame that. Unfortunately, my deadline came before I could verify what I wrote-sorry about that!

Yes, you can use ChromaFX on still pictures, but they should be on live video or tape and, after having been subjected to ChromaFX processing, should be output to a VTR. If you want framestores of this, freezeframe from the tape, then save the result.

Now that the fix-it stuff is out of the way, let's get started with the exciting parts of ChromaFX. Here we will get into some special effects which can add interest to your videos and some that are just plain fun. As in Part One you will need a video source: live camera, video from your television or from a VTR. At the end of this article is a page that shows some of the possibilities for color processing using ChromaFX.

Embossed Video

Let's start by using an effect supplied by NewTek. Enter ChromaFX and select Effect 26 by typing 26 on the numeric keypad and pressing Enter. This effect, Fade to Neg, provides a transition from regular video to negative, either in black & white or color, depending on which button you select in the Chroma Control Panel (upper right on the screen). At this point you may wish to turn to page FX4 in the manual for reference to the ChromaFX screen diagram. Click on the Color button and you will be ready to create an embossed effect.

In the last issue I mentioned that when a Chroma effect occurs, there is a slight image shift on screen that is not usually noticeable. But now we will take advantage of the shift and emphasize it. Click on a preset button to enable use of the effect from the Switcher and make sure the Transition filter button (upper) is depressed. Exit to the Switcher and have the same video source on both Preview and Program screens. Then go to the F bank and click the preset you chose. Move the Tbar to the bottom, noting that the Preview image has become a color negative and the Program image is normal. Click the F48 (Fade) button and note the T-bar has returned to the top. Move it down about half way and you will see the negative colors are cancelling the positive ones, resulting in gray (usually), but the slight image offset simulates embossment. This works best with simple moving images and also works with large text. Sometimes a little color bleeds through but if you're careful you can minimize it.



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You can also create great special effects with negative color. Our local Silicon Valley Toaster users group showed an unusually effective video by Electric Zebra from Alameda, California. It featured a vocalist whose image was tinted using a filter Chroma effect and (presumably), using a black background, was luminance-keyed over an undulating (possibly using SteadyCam) camera view of the Stanford University quadrangle in negative color. The mysterious effect perfectly matched

Posterization

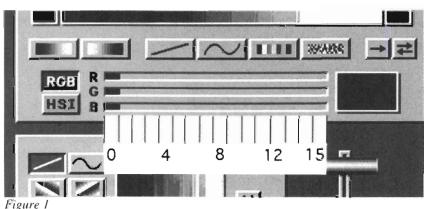
the haunting voice.

Let's move on to something else ChromaFX does well, which is posterization. I got interested in ChromaFX almost immediately because I used to do color posterization with still photography,

substituting single colors over broad luminance ranges or substituting false colors. I can still recall the numerous hours I spent creating many high contrast negatives and positives which had to be carefully aligned and then exposed to various colored lights in complete darkness. The process usually takes ten to fifteen hours and you end up with just one print. With Toaster I suddenly found a way to do this with wild colors in just seconds, and with real-time moving images at that.

In ChromaFX you will see that Effects 14 through 18 are posterizers. These are not false color posterizers but produce gray-scale images when the Chroma Control Panel B&W button is depressed, or "natural" (my terminology) posterized color if the Color button is depressed. Effects 14 and 15 are very subtle and you may not have noticed that their images are posterized. Effect 16 produces a noticeable posterization and 17 allows you to lighten or darken the polarized colors. 18 allows you to select between several degrees of posterization. With all of them, if you select a Shift or Rotate button in the

Color Table Control Panel, the top line of the Color Table becomes a series of diagonal lines in the Color Table, So, as you move the T-bar, the various luminance levels change color. This latter flexibility is important since most video images don't include the entire luminance spectrum, i.e. from pure black to pure white, and may not be centered on the spectrum, but may emphasize the white or black end. By being able to move the T-bar up or down a diagonal spread, you can get the



broad lumi posterization you like or

posterization you like on that portion of the luminance scale best suited to the image.

I personally prefer a three or four-color spread in my posterizations, and I like colors that have a hard edge rather than blend together. I guess it's a matter of taste. Let's create a three-color black-and-white and natural color posterizer. Press the numeric keypad + key repeatedly until you have a blank effect or type the last number in your set of effects and press Enter, then press +. Make sure the Top Line Arrow of the Color Table is depressed, the Transition filter control is depressed and cycling is off. You already have a black-to-white gradation on the top line of your Color Table. It shows in the table and in the Color Strip. The bar above the Color Strip is the Posterization Slider. With the left mouse button slide it to the right. Notice how the original smooth gradation changes to gray scale blocks. Set the number of blocks to three. Check your RGB values for the left and right colors. Note they are no longer pure black or white, but dark or light gray. In this instance ChromaFX has averaged the colors within the spread of each color. For now we will have to live with it. Now click on the button to the left of the Posterization Slider to have your posterization colors blur where they meet, or the button at the right for hard edge. Let's have crisp edges and depress the right one. Now click on the Shift Right button (left of the Color Table at lower left of screen) and the three posterizer blocks become diagonal lines in the Color Table. Click in the Text Window and type "3-B&Wposter".

Click the B&W button of the Chroma Control Panel and then the T-bar. After a moment your Program video will become gray scale posterization. By moving the T-bar you can select the best posterization for your purposes.

Or you can turn the image into a negative with more movement of the T-bar.

Return the T-bar to the top. Now click on the Color button and you have instant posterized natural color. Again move the T-bar until you get the best image you can. For this type of posterization, kind of a shadowless plain color effect, simplicity of image and lighting is important. Try a live or taped picture from a TV talk show where the light is meant to show the people clearly rather than create mood images with shadows and darkness. Geraldo Rivera, Maury Povich and Oprah Winfrey are good examples. Notice how this posterization enriches and darkens the natural colors. The effect with proper lighting is somewhere between a normal color image and a line-drawing cartoon.

In some cases, however, flesh tones posterize as gray and appear pasty and unflattering. We can modify this by changing the gray scale to one more closely emulating flesh. Click + for a blank screen. This time let's not live with the color averaging of the Posterization Slider. Set the buttons as before, then, using last issue's

RGB gauge as a guide, change the left black in the Color Strip to R = 3, G = 2, B = 2, click the Copy button and then click into the Color Strip slightly more than 1/3 to the right, then on Horizontal Spread and back to the left box., You should now have a dark brown block covering slightly more than 1/3 of the Color Strip. Click directly to the right of this dark color block. Set R = 9, G = 7, B = 7, then click the Copy button and click slightly less than 2/3 to the right side, then Horizontal Spread, then back again for your second color block. Now set the right color to R = 15, G = 13, B = 14 and click Copy, then right next to the last block, click Horizontal Spread and back into the right box. Now you have a three color posterizer with the colors you (really) want. Don't forget the Shift Right or Left button to get a diagonal lined Color Table. Try this posterization in both B&W and Color modes. The B&W is very warm and Color produces more flesh-like colors. Name the effect Fleshposter. Experiment with these two posterizers on different types of subject matter, colors and lighting.

Wild Colors

So much for natural color posterization. Let's try some exotic false colors. Earlier this year I was inspired by the Fourth of July and came up with an effect I call Patriot. It was a three color effect similar to the last using red, white and blue. Repeat the last process substituting the following colors:

Red: R = 13, G = 0, B = 0White: R = 14, G = 14, B = 14Blue: R = 0, G = 0, B = 10

You can use this for any occasion to suggest patriotism, America, U.S. Olympic athletes, etc. French, British, Dutch and the folks Down Under can use it as well. And other nationalities need merely change the colors. Don't forget to name it.

The following bold effect of red and yellow on a purple field produces strikingly colorful effects. A descriptive name could be PurRedYelBar. First make a purple spread across the entire Color Strip with RGB values as follows: Red = 3, G = 0, B = 5. Then about 1/4 of the way from the right and from the left make two

spreads, one or two RGB Slider or HSI widths of adjacent red and yellow as follows:

Red: R = 15, G = 0, b = 0Yellow: R = 15, G = 12, B = 0

Don't forget to type in the name and click on the Shift or Rotate buttons. You should have two red and two adjacent yellow diagonal lines on a purple ground in the Color Table. Both this latter effect and

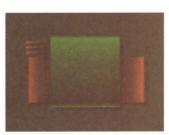
Patriot posterize best in the B&W Chroma control mode. This is just the beginning of the striking false posterizers you can create. Try wild colors; try subtle ones; try harmony; try lots of colors; try thin line types such as 45-Neon Cycle. And experiment on different subject matter.

Thin Lines

Next, let's try some line art. Type 11 and press Enter, which will bring up the

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Line Art effect. Render it to a video image by pressing the right mouse button. Also, with the right mouse button move the Tbar up and down, noting that very little of the image shows as a line and the white ground is often tinged with green and purple. This latter is called "fringing" and is inherent to the Toaster. By increasing the width of the black line in the Color Strip (and the Color Table), some fringing can be eliminated as well as defining more of the image. I did this by making the entire Color Strip white and putting a wider black band (two RGB Slider widths) in the center and clicking one of the shift buttons in the Color Table Control Panel. You might want to create other types of moving art. Try experimenting with 12-Charcoal and 13-Pastel. Note how their Chroma Control buttons are set. Both produce unusual effects, and also exhibit some fringing. But, when properly set with the Tbar, they produce intriguing moving art.

Color Cycling

Color cycling often produces attractive effects. Load 21-Solarize. It should be set to B&W Chroma Control, Transition filter and Slow cycling. To say the least, this will give you a colorful screen. Click the right mouse button to load the effect and start the cycling. While cycling, click the S, M and F buttons to change speed. Also click the central button in the Color Cycling Control Panel to see how the cycling directions work. Page FX 11 of the Toaster manual explains what is happening. The same is true for 50-color bands. Note that 50 and 51 seem identical. Further examination discloses differences in the Filter Control and Cycling Panels. Changes in these two panels does not unload the effect, so you can make changes to any of these buttons and notice immediate change on the program screen. The same is true of the Video Source and Chroma Control buttons. I suggest you experiment with all these buttons with different effects to understand the flexibility and variety of ChromafX.

Let's now see what cycling will do to logos. Select 29-Gold and make sure Right

Shift in the Color Table Control Panel is depressed. Assign 29 to a Preset, set Chroma to B&W, select Transition filter and Cycling on. Exit ChromaFX to Switcher. Load the VTLogo framestore to DV2 in the Preview, and then click DV2 in the Program as well. Go to F bank of the Switcher and click on your selected Preset. Wait a moment to see what Gold will do to your Preview screen. At this point you can control the cycling speed with the speed buttons at bottom right of the screen. I suggest you click S (slow). Caution: If you move the T-bar, all cycling stops. Now click effect F48, Fade (your cycling speed is now locked in). With the T-bar slowly fade the false colored cycling logo from your Preview screen to your Program screen. You can stop at the degree of fading you like. You can use other transitions with ChromaFX Preset buttons, but not all. Try different effects with and without cycling. This Gold, or similar effects like 49-Zebra Stripe and 50-Color Bands produce a glass-like logo.

Special Backgrounds

We'll wrap up this discussion of ChromaFX with a way to create backgrounds for text and experimentation in ToasterPaint. Get back into ChromaFX and select the effect you recently named PurRedYelBar, making sure one of the Shift or Rotate buttons is clicked to produce diagonal lines in the Color Table. We will use the Color Table image of this effect to create a background that can be manipulated in ToasterPaint. This technique was described in a previous issue of Video Toaster User by James Hebert of NewTek, but if you are a new reader, here it is again.

We have to put the effect in a buffer, so click the T-bar to load the effect. Exit to the Switcher. Now, to keep it in the buffer and be able to access it, we must once again enter ChromaFX, then leave it immediately. Now click DV1 in Preview. A not very accurate duplicate of the Color Table should be there. Notice the Color Table has been compressed to about half its horizontal dimension and then bled hori-

zontally slightly left and extensively to the right. The jaggies are quite pronounced, but can be smoothed easily in ToasterPaint. All Color Table images will do this. It's up to you to artistically create backgrounds within these limits, or modify the image in ToasterPaint. You can save the image to a framestore in the regular manner.

Try creating different Color Table images using different color combinations, more or less colors and lines, hard edge lines and blended lines along with the various Shift and Rotate buttons for different effects. Or try some of the existing effects. A spectacular one is 30-Red Chrome. For this one, make sure the Rotate Right button is depressed.

Next let's create our last effect, a background for text grading from one color on top to another on the bottom. Unlike the diagonal-lined Color Tables which are distorted by the process, these horizontal colors will look exactly like the Color Table because you won't be able to notice the transition from a compressed Color Table and the horizontal bleed. Get back into ChromaFX and select a blank effect. Create your own colors or use the following. In the left box of the Color Strip make a dark color of R = 7, G = 0, B = 3. With Copy and Horizontal Spread make a single color band across the top of your Color Table. Click the Bottom Line button and do the same thing in another color, like R = 15, G = 10. B = 9. With my colors you should have a Color Table with magenta on top grading to flesh tone on the bottom. Repeat the procedure of loading the effect with the T-bar, exiting to the Switcher, reentering ChromaFX, exiting again and clicking on DVI in Preview.

That pretty much wraps up ChromaFX. True! We haven't discussed all the buttons or been through all the effects (the manual does that). But, I hope this pair of articles has been sufficiently interesting and informative to get you started in using your Toaster to create some of the most exciting special effects now being produced in digitized video. Good luck!....And have

fun!





This series of color pictures illustrates a few of the many effects that can be created with ChromaFX. The picture in the upper left corner is a straight frame grab of unprocessed video. Special thanks to our lovely models Michele Fontana and Michael Ingoglia of HT Electronics.

VIDEO TOASTER HIGH

By Trevor Donovan



he sign above the door where Dearborn High School's Video Toaster is kept says it all: "Don't Get Mad at Televi-

sion—Get Even." And the students do get even, with a curriculum stressing self-taught learning and hands-on experience, not to mention producing a weekly three-hour music-video/entertainment program.

This high school, ensconced in a fashionable suburb that's also the world headquarters for Ford Motor Co., is among the leaders in secondary video education. Students have won numerous national and international awards, and gone on to find real work as writers, producers and directors in TV and movies.

The man behind it all is Russ Gibb, a Detroit-area media personality from almost before there was TV. For almost 15 years, he's guided students from this suburban Detroit high school on a journey through

"unreality."

"My big hero in all of media is Toto," says Gibb. "What did he do? He pulled back the curtain so we could see who the Wizard of Oz really was. I like that. Once you demystify television, you see things as they are."

Putting technology, like NewTek's Video Toaster, in the hands of students is one way for them to see how television is made, and in turn, decide what to believe and what not to believe.

"With TV, you can win wars and sell presidents, products, the environment. Young people need to know that," says Gibb. "Once kids create TV, you can't fool them."

Further, video as an educational tool is largely overlooked, to the detriment of students. School districts rarely explore new methods and media to teach.

"Education holds print sacrosanct," he says, adding today's student, having grown up with television, has developed a discerning eye for visual information. In-

stead of lamenting the fact students may not be reading as much, he thinks educators should embrace new technologies of communication, particularly video. "Memory is 90 percent visual," he says. "Kids read television like I read a book."

"Education as it is today is failing. Generally, many teachers are afraid of innovation and technology. But they don't have to be intimidated. Kids like to help adults. they'll show us how to use these technologies."

Case in point: he first saw the Video Toaster about two years ago, and immediately the significance of the device was apparent. "What it can do for \$10-\$12,000 would take \$200,000 with conventional video equipment."

"There's a new literacy now, television and computers, and kids take to it naturally," he says. "The Toaster is very exciting, because it's a melding of the two."

The Toaster's user-friendly interface

How do I assign a surface to an object? How does the luma keyer work? What does that button do? How can use a paint background with the CG? Where are the buffered pages stored? How can I render my frames faster? Where did that ine of text go? How can I create an embo & eff do I create a CG flash pag hake my logo look gold? How can I mal my demo reel better? Where are the CG pages I spent all t creating? How can animate this? e la a wny is my hard drive full? How can I put more frames on it? How do I put a live person in front of a wher map? Why can't I grab a frame of (1)? Why don't my digital effects look digital? How can I make my animation longer How can I fly this logo in less than 10 minutes? How do I make a cloudy background? Why can it find my default project? What's the best way to composite images? What happened? Where are all of my CG fonts? How should I make a spaceship? How can I get rid of that line?

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has also made video production far more accessible to creative students who may not be technically adept.

"Some kids are intimidated by all the traditional equipment," notes Gibb. "But they'll get right on the Toaster."

Students easily spend 10-20 hours a week involved in WDHS activities during the school year. The well-equipped WDHS studio has its own entrance, and can be open seven days a week, even during the summer. "You can't kick the kids out," says Gibb.

In the summer, the studio is open for students to work on their own projects, on segments for the school's weekly cable TV show, Back Porch Video, or on independent video productions. Several have made training videos for large corporate clients like IBM.

It's a relaxed atmosphere. Gibb himself sits on a recliner like a king on his throne in the center of the studio, bellowing encouragement to on-stage talent or barking instructions to production personnel. His black labrador, Blackout, is a regular visitor.

At first, one would think the students are inordinately polite, as most refer to him as "sir." Then Gibb explains the students are really saying "Russ" backwards; as legend has it, he was left on this planet by aliens in Big Sur, Calif.

One of the schools two video-production rooms is dedicated mostly to a Video Toaster 2.0 running on an Amiga 2500, with a Diaquest DQ-TACO, RCS Fusion 40 accelerator, and Ricoh removeable hard drive. Nearby, a Chyron Chameleon is also put to use frequently: "Some of our artists prefer to use a pen," says Andy Fradkin, student station manager.

The other production room is nearly twice the size, stuffed with monitors and banks of editing gear. The school's playback units include a Super Beta Hi Fi, Pioneer Laserdisc player, two VHS decks and a Sony U-Matic.

There's an open stage at one end, while the other side is used for "talk show" type programming. The ceiling is covered by lighting framework.

SETTING UP THE PROGRAM

After more than 30 years in the spotlight, Gibb has had more than his share of attention. For this article, he glosses over his own accomplishments and instead urges: "Talk to the kids, they're the ones who are important."

But to understand where Dearborn High's program is, it's important to know a little about Gibb himself. In the 1960s, he was a fixture on the Detroit rock-androll scene, as both a disc jockey and a concert promoter. He helped found Creem magazine. Gibb gained national notoriety as the person behind those "Paul is dead" rumors from the late '60s. (His status as an "elder statesman" of Motown media earned him a spot on Detroit Monthly magazine's Hip Hall of Fame list in its April, 1992, issue.)

In 1976, he went to Washington, D.C., as national director of Youth in Education; he left disillusioned by politics. "I went there a Democrat and came back an independent," he confides wistfully.

"I decided teaching is what I wanted and have been here ever since," says Gibb. "Every year, I plan to retire, but there's always a group of kids I want to see graduate."

He saw an early Betamax, and brought it to Dearborn High in the late 1970s, where he taught "Mass Media." Gibb bought the class its first color video camera, so boxy it was called, ironically, the Toaster. With it, the class made their own commercials. Later, the school added a second VCR, so students could "punch edit" their work. Since then, DHS has continually added on.

Where many teachers of the arts complain about the emphasis of athletics in schools, Gibb professes the opposite: "I have lots of respect for sports programs." In fact, he's modeled the WDHS program after them.

"What do athletic teams do? They stay after school, have boosters, go to competitions and win awards," he said. "I decided I could do that with a television program."

Answe the Answers!

OUR EXPERTS

Lee Stranahan is known across the country for his ability to show people the power of the Video Toaster. He wrote the Tutorials for the acclaimed Video Toaster 2.0 manual and last year he logged over 30,000 miles giving seminars, speaking at conventions and user's group meetings, and working at trade shows for NewTek. He is currently featured in the Desktop Images instructional tape series.

Tony Stutterheim is the director of NewTek's award-winning Revolution. As the former head of NewTek's Video department, he has been working with the Toaster since before its release. A prize-winning photographer and video editor, Tony is also responsible for many of the amazing LightWave 3D animations seen on NewTek's promotional tapes. He is currently starting his own high-end production/post-production/3D graphics studio.

John Gross is the lead instructor at NewTek University, NewTek's training program for its authorized dealers. John's classes at NewTek U have earned him high praise as a teacher and Toaster expert. He writes the "Dear John" column in Video Toaster User magazine, and has also worked as a graphics/3D artist in Minneapolis

OUR CLASSES

Toaster Essentials is our general purpose hints and tips class, which covers use of the Toaster's Switcher, Digital Effects, the Character Generator, ToasterPaint and much more. Those attending will learn how the Toaster works, and techniques that they will be able to use in their work right away, whether they work in broadcast, corporate or industrial video. This class, with over six hours of instruction, is our most popular seminar.

LightWave 3D Essentials is a six hour class that will show people how to use LightWave 3D. Students will learn methods of creating 3D graphics; how to create and modify objects using LightWave's Modeler; how to create and apply surfaces, such as wood, glass, and water, to objects; and how to lay out a scene to create either still images or animations. This seminar is for anyone who wants to use LightWave 3D better, from the beginner to the intermediate level user.

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Winning awards is one area the Dearborn program has excelled. DHS students have won the top awards at the International Television Association Golden Cassette Awards and International Student Media Festival, as well as other competitions. Much of the funding comes from an endowed fund Gibb set up with private donations and the Council for the Arts.

Gibb says the key to his program is letting the students get their hands on the equipment. The mandate is to use, not abuse; Gibb thinks it's ridiculous for a school not to make its resources available to students.

"I let students take a \$2,000 video camera home over a weekend and librarians get worried about a \$20 book," he says.

John Kerry, a DHS alum who's now a communications major at Michigan State University, says it was easier to use equipment at DHS than at MSU: "The students are better off here. You have to go through so much red tape at MSU just to get a camera."

Gibb sees that philosophy as indicative

of higher education: "They are so afraid of the Holy Grail falling into the hands of the unwashed."

Does Gibb think he's a video visionary? Educational genius? "No. I'm just lazy. I see myself more as a facilitator than a teacher."

Gibb himself is not much of a technophile—when asked to bring up a still-store from the school's Toaster, he pleads ignorance: "I let the kids do that."

Damian Dobosz wants to study animation and film, and credits the WDHS program with his interest. "This program has had a profound effect on me; without it, I wouldn't be in video at all," he says. "I'd probably be drafting or something."

Dobosz is the resident "Toastmaster," having created a dancing hat-and-cane sequence in LightWave for Back Porch.

Dobosz adds the students aren't typical "video heads" or "nerds," but are come from all facets of school life: "jocks, weirdos and burnouts." For example, he's active in Dearborn theater and Fradkin serves on the student council.

Of course, some do bury themselves in the program. Of the 100 students enrolled in Dearborn's television program, "about 40 percent are really into it," says Dobosz. "Those are ones you see the really interesting projects from."

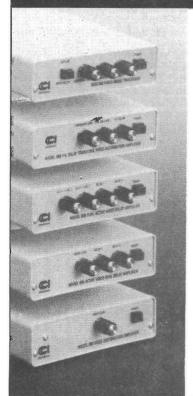
Before any student even touches a camera, however, Gibb prefaces the hands-on instruction with a 10-week theory course. Everything from the physics of light and color theory to chemistry and optics. With this information, they're immersed in hands-on learning.

"Television is the thing kids see the most," he notes. "Once they get started, they're enamored with taking pictures, then they get involved in storylines, sound and graphics. Then they get into real production."

The students also develop a keen eye to what's good and what's not, especially as related to "Toaster Etiquette." For example, Fradkin describes some of the commercials produced by the Detroit-area Fox affiliate as "tacky."

"You see every font and effect, except for falling sheep." he says.

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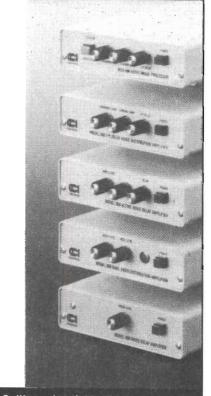
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At Back Porch Video

It's 15 minutes before air time of Back Porch Video on cable channel 21, and the crew is desperately looking for an opener for "The Scott and Eric Show," tonight's first hour-long segment. Creative energies flow as ideas are tossed back and forth. Finally, with minutes to go, the cast decides on a sequence where a crew member poses as someone trying to sell a dilapidated car. Quickly, lights cameras and mics are set up outside the studio.

When the "buyer" opens the trunk—voila!—out pop Scott and Eric. After a few seconds of ad-libbing, they introduce the first video.

This may sound haphazard, with a sort of "Hey kids, let's put on a show" feel, but that's not the case. Behind the camera, there's plenty of scampering about and whispering into walkie-talkies, but on the air, the viewer is treated to professional-quality graphics, smooth transitions and engaging content.

Back Porch is taped live at Cable Vision Industries in Dearborn each Saturday

evening. That's also where Gibb tapes his own Sunday public-affairs program, "Russ Gibb at Random."

While not directly connected to WDHS, many of the same faces are here. Many of the video projects created for Gibb's class are broadcast here.

Every Saturday night, three hours of cutting-edge music is offered. The style is MTV, but the content is definitely underground. Back Porch viewers don't find the typical homages to Madonna, Paula Abdul or Whoever's Plugging Pepsi This Week; instead, they see groups like The Farm and Nick Cave and the Bad Seeds. If a mainstream artist like Ziggy Marley is played, it's usually not the video seen on MTV rotation.

From 9 p.m. to 12 midnight, on-air talent bave hour-long or half-hour shifts, sometimes with Toaster-created credits. Lately, they've started running "old shows" from midnight to 3 a.m.—some dating back to 1984.

Through Gibb's' rock-and-roll connections—and their own industriousness—the students also videotape concerts at St.

Andrews Hall, Detroit's modern-music showcase. Back Porch crews have interviewed artists like Soho for broadcast on Saturday nights.

This particular spring evening, Gibb isn't on the set, but his presence is felt through a private phone in the control booth, he watches at home as the show is broadcast, frequently calling and offering criticisms, comments and suggestions. ("I can't help directing," he admits.)

Teenagers being teenagers, they test the waters to see how far they can go. For example, an impromptu sketch involving a talking motorcycle helmet careens into borderline tastelessness, prompting a call on the "Russphone," as it's called. As it turns out, Gibb wasn't as concerned about possibly offending viewers as he was about over using the walkie-talkie used to make the helmet "talk."

The rest of the show progresses "normally," as Back Porch goes, and soon another edition is in the can. Dearborn students have gotten even one more time.

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By Arnie Cachelin



n case you missed this column last issue, ARexx is a language/protocol which lets multiple applications intercommunicate and

lets you control and coordinate their operation. Last issue I described ARexx control of the Video Toaster Switcher. As it happens, ToasterPaint can also be controlled through ARexx. This means that you can use ARexx to automatically create or process ToasterPaint images in ways which would be time-consuming, difficult, or even impossible using the standard ToasterPaint user interface. In this article we'll take a look at the basics of using ARexx to control ToasterPaint, and discuss a few possible applications.

Like the Switcher and all other ARexxcompatible Amiga software, ToasterPaint has a uniquely named address to which messages for the program must be sent. The name of this address or ARexx Port is, for historical reasons, DigiPaint. This name is case-sensitive, and must be correctly capitalized and surrounded by single or double quotes to preserve the lowercase letters. If we know this port name, and the set of commands which ToasterPaint understands we can write a script to control ToasterPaint. ARexx must also know the port name to send commands to ToasterPaint, so we use the AD-DRESS 'DigiPaint' command at the beginning of our script. After this line, all subsequent commands will be sent to ToasterPaint until a different ADDRESS command is encountered. This method of addressing a program is completely different from that used by the Switcher, but far more common among Amiga applications.

Like its port name, ToasterPaint's commands are case-sensitive and must be shielded from ARexx' zeal for capitalization by single or double quotes. In order for ToasterPaint to receive the commands you send, it must be active. To send commands or execute ARexx scripts, you will also need to open an AmigaDOS Shell window into which you can type commands. How do you open a Shell window while in ToasterPaint? First you'll have to return to the Switcher, then use the Ctl-Ctl-Alt-Alt key sequence to return to the Amiga Workbench screen. Now open a Shell window. This window will keep the Workbench screen from closing when you return to the Switcher and enter ToasterPaint. To get to this Shell window, you will either have to flip through the screens using the Amiga-M and Amiga-N hotkeys (Workbench 2.0) or use Amiga-N to return to the Workbench and the button in the Workbench screen's upper right corner to flip back to the ToasterPaint screen (Workbench 1.3). (Note: Workbench 2.0 comes with ARexx installed and has a grey screen, with Workbench 1.3 the screen is blue, and you have to buy ARexx separately.)

Now that you have both ToasterPaint and a Shell window open, and can switch between the two at will, it may prove convenient to close the ToasterPaint interface screens with the close button on the lower left corner of the ToasterPaint control panel. From the Shell window, you can send single commands directly to ToasterPaint. To send a simple command which will clear the screen (Clrs), type: rx "Address 'DigiPaint' 'Clrs'".

This is a rather limited way to control ToasterPaint, more useful and interesting applications will require a series of these commands, preferably entered in a text file. If that text file is named "TryMe.rexx", you would execute it by typing rx TryMe. Some working examples of ARexx ToasterPaint scripts are located in the ARexx_Examples directory of your Toaster 2.0 software (see the sidebar).

All of the commands ToasterPaint understands have two basic similarities; they are four letters long, and have only the first one capitalized. Since the case of the letters is important, every command should be enclosed in quotes. All ARexx programs must begin with a comment, a line which does nothing and is enclosed by "/

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```
address 'DigiPaint' /* Tell ARexx where commands go */
'Pmcl'
                     /* Normal paint mode */
                     /* Draw Circles */
'Drci'
                     /* Filled shape mode */
Flon'
                     /* Brush Size */
'Bsz3'
/* Draw big yellow circle */
'Cbxa'
                    /* Yellow color (a=10) */
'Pend' 376 240
                     /* Pen Down at Smiley position x,y */
'Penu' 376 10
                     /* Pen Up at Smiley Radius x,y-r */
/* Draw Mouth */
'Flof'
                     /* Fill off */
'Cbx0'
                     /* Black Color */
                     /* Draw ellipses */
'Drar'
'Pend' 376 308
                     /* Smile center */
'Penu' 510 396
                     /* Smile size */
'Drre'
                     /* Draw rectangles */
'Flon'
                     /* Fill on */
'Cbxa'
                     /* Yellow Color */
'Pend' 212 200
                     /* Erase top of smile ellipse */
'Penu' 536 326
'Cbx0'
                     /* Black color */
'Drci'
'Pend' 245 328
                     /* Round smile edges */
'Penu' 245 328
'Pend' 507 328
'Penu' 507 328
/* Draw Eyes */
'Pend' 300 180
                     /* Left Eye */
'Penu' 322 180
'Pend' 452 180
                     /* Right Eye */
'Penu' 474 180
'Shco'
                     /* Render to Program Out */
                     /* Bye bye! */
 exit
                                                         Figure 1
```

ToasterPaint must have the line Address 'DigiPaint'. The guts of the program will follow, consisting of commands to ToasterPaint, and ARexx internal commands to handle things like variables, looping and math. As a simple example, let's look at a program to draw a smiley face in ToasterPaint. (Please refer to the code in figure #1).

/* Don't Worry Draw Happy! */

Note that many lines happen to be followed by a comment which lets you know what's going on. It's all pretty simple. If there is an error anywhere along the way (perhaps ToasterPaint ran out of memory, or a typo made it try to draw off the screen) ToasterPaint will flash its screen. It will not return any error message and if the ARexx command for returning results (OPTIONS RESULTS) is included, the

and "*/". ARexx programs for script won't work at all. There is little reason for this script to fail, as it does nothing but draw circles and a box. It might be obvious that to make a smaller smiley, or to move him over you would have to adjust a mess of numbers and go through several rounds of trial and error before things were looking smiley again. If I had created variables like SmileyX, Smiley Y, and Smiley Size I could write the eye and mouth positions in terms of these variables and resize or move smiley simply by changing these values. I could also tile smileys all over the screen by repeating the drawing in a loop with changing positions. I could even use the random number function in ARexx to fill the screen with randomly sized smileys at random positions. Creating these variations is left as an exercise for the reader. We will however take a look at some other examples of the power which ARexx internal commands can add to the ToasterPaint arsenal.

The following example will make a background of rounded-looking bars using the current range colors. It will set up everything else, so that it should work no matter what state you have left the transparency settings in. Contrast this to the Smiley example, which would give unexpected albeit interesting results if these settings were not in their default startup arrangement.

(Please refer to the code in figure #2) If you are confused by the number used to set the position of the horizontal gradient center, find a computer reference which explains the hexadecimal (base 16) numbering system, which uses the 16 digits 0-9 and a-f in place of the 10 digits 0-9 which the familiar base 10 decimal number system uses. The slider values range between \$0000 (0) and \$FFFF (65535).

When I think about looping with

```
useful ways. From a circle whose hotspot
shifts as an imaginary light moves by it, to
an animated glint playing across a 3D logo
using ToasterPaint's Lighten mode, from a
spotlight moving across a darkened image
to a lens (warped texture map) moving
over a grabbed frame. Many effects which
are difficult or time-consuming to render
in LightWave 3D can be done very quickly
using ToasterPaint and ARexx. An ex-
ample of this is a fun project I am cur-
rently working on which will animate laser
beam blasts between 3D animated space-
ships (or chrome teapots if you prefer.)
```

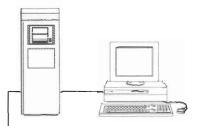
My laser animation program works as follows. In preparation for the actual animation, I look at the first and last frames of the rendered 3D animation in which the blast will appear. By putting the last frame into the swap screen, I can rub the target ship through into the first frame. Now I draw a line from the firing ship (assume it's stationary) to the rubbed-through target and jot down the coordinates of the endpoints. My program will use this in-

```
/* Draw Bars Background */
address 'DigiPaint'
                                /* Tell ARexx where commands go */
'Drre'
                                /* Draw rectangles
'Flon'
                                /* Filled shapes mode */
                                /* Turn off Horizontal and Vertical gradients */
'Hvof'
'Varr'
                                /* Toggle Vert, Gradient (on) */
'Dotb'
                                /* Use single dot brush */
'Poth' SF000
                                /* Set Gradient center to middle ($0000 - $FFFF) */
                                /* Go to Range painting mode
'Rang'
h=80
                                /* Set height of bars*/
                                /* Loop to move top of bar down screen */
do y=0 to 480-h by h
      'Pend' 0 y
                                /* Start at top left corner */
      'Penu' 752 y+h
                                /* Draw all the way across and h down */
                                /* Finish loop, repeat commands until y>480-h */
end
                                /* Render to Program Dut */
'Shco'
                                /* Bye bye! */
exit
                                                               Figure 2
```

ToasterPaint, I immediately think about doing 2D animation with it. If I can draw a smiley at different places on the screen with a loop, I might just as well draw it on different frames in different places. This would vield a series of frames which I could record frame-by-frame from LightWave 3D. It might be a boring animation of a bouncing smiley face, but the general technique could be applied in more

formation and the number of frames to calculate exactly how long a laser beam to draw in each frame, so that it hits the target just as it moves into position at the last frame (the firing ship has computer tracking which perfectly leads the moving target!). The program will then load each frame, draw the appropriate beam, and save it. The beam will have a nice luminous look with transparent edges and possibly a

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range of color. The next features to add include moving the end of the beam so that it looks more like a pulse, and arming the ship with photon torpedos (little circles) which will look better when the firing ship is moving quickly. Finally, I'll add an explosion animation feature (or separate program) which will create growing, luminous range circles for a gaseous space-explosion look.

I am eager to hear your ideas and see your scripts or their results. Unfortunately, I cannot take calls regarding these articles or ARexx questions. NewTek tech support is neither equipped or inclined to answer these rather esoteric questions as they are usually swamped by more basic Toaster queries. Mail or FAX comments, suggestions or questions to me in care of Video Toaster User. I learned all my ARexx tricks by exploring and I had fun, and you can too!

About the Examples

These ToasterPaint ARexx example programs come with the Video Toaster version 2.0 software. You can find them in the ARexx_Examples directory in the Toaster directory.

This program draws a raised, 3D-look border on the ToasterPaint canvas using the lighten and darken modes. Specify the position of the upper left corner, the outer width and height, and the border thickness.

EmbossPic.rexx

This program makes an 'embossed' version of whatever image is currently in ToasterPaint. It works by blending the picture with a negative version of itself, with a small offset. If picture filenames are given, pictures will be loaded and even saved. This process uses a brush the size of the whole screen, and this uses a bunch of memory.

FS2RGB.rexx and RGB2FS.rexx

These programs convert numbered RGB frames into framestores and vice versa. There is a silly bug the FS2RGB version which is cured by removing the Exists(file) part. Other problems include weirdness with ToasterPaint remembering which directory it was looking at. DON'T USE THESE. It is recommended to use LightWave 3D to render a sequence of frames or RGBs as foreground images and save them as RGBs or frames.

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See a full review of these products in this issue of VTU

TxBrush.rexx

This program resizes a brush so that the width is a multiple of 64 pixels for use as texture map in LightWave3D. You must tell it the width and height of the brush, along with its name.

TPMap.rexx

This program creates an image which has matching left and right and top and bottom edges for use as texture maps in LightWave3D. The program cuts a strip off the top of an image, flips it over, and pastes it on the bottom edge with transparency set to blend the inner side of the brush smoothly into the image. It then repeats this process for a strip on the left side.

TPComposite.rexx

This program merges two images in ToasterPaint, with variable transparency applied to the second image. The optional blend percentage (0-100%) is the weight of the blend of the second picture; 0% leaves picture 1 unchanged, 100% mixes the two images with equal weight. This is the default weight.

TPaintStoryBd.rexx

This program takes a series of numbered frames (like from LightWave 3D), shrinks them, saves the shrunken images to the 'TempPath' specified or RAM:, then places them on a single frame in 3x3, 4x4, or 5x5 format. It adds a nice little embossed border for each frame. The final storyboard pictures are saved with the original frames. If more than one page of frames is specified, more than one storyboard image will be created. This program contains a large set of useful

ARexx-ToasterPaint functions which can be used in your own programs.

ShrinkPic.rexx

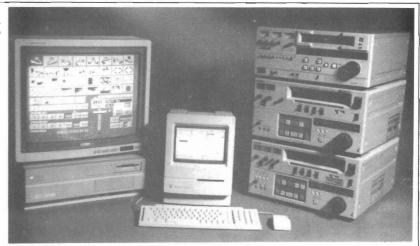
This program shrinks a given picture by a given amount. If no directory and picture name are given, it will shrink the current canvas to 1/4 its size.

IFF2TPaint.rexx

This program loads a standard Amiga IFF image, and maps it to fill the ToasterPaint canvas. Give it a full file name to load. Optional parameters are an output name, to save the RGB image, and a blur switch. If there is any third parameter given, then Blur will be used. and the whole picture will be blurred once. This helps smooth the pixels and color bands in lower resolution or color images.

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Toastmaster and earlier Toaster 1.0 software, it's to your advantage to upgrade to version 2.0. Also, ToastMaster requires ARexx to be installed in your Amiga's operating system. This

Product Revieш

By Tony Gomez



Ever since Newtek's VideoToaster became available. many of us video producers immediately set out to coax this incredibly ver-

satile desktop video production system into doing even more than what was originally thought possible. Things such as automatic video effects sequencing, or modified speeds for transition effects etc. And, even with the incredible new organic-style "anim" wipes that came with Toaster 2.0, we still wished for more—the ultimate ability to create our own transitions.

While automatic Toaster effect sequencing was possible with ARexx scripts, who had the time to learn and program this arcane language anyway? And forget different transition speeds, it just wasn't possible. As for our own custom wipes, well, that would have to remain a fervent hope for the future.

Fortunately, the future is now! Toastmaster and Wipemaster, to paraphrase Star

Trek, will literally take your Toaster where it has never gone before. These are two different programs from Byrd's Eye Software that are designed to fully multi-task with and allow you unprecedented control over the Video Toaster.

Toastmaster v1.5 Requirements

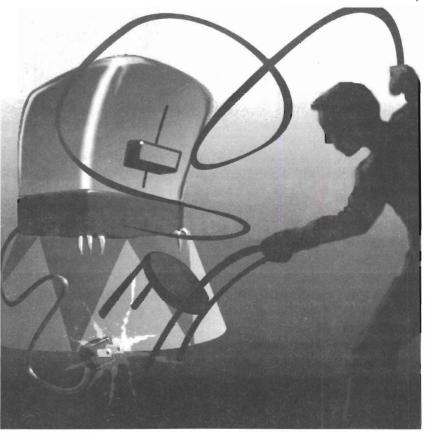
It's assumed that you are using Toaster 2.0 software. While ToastMaster will also work with the earlier Toaster 1.0 software, it's to Amiga's operating system. This will be automatic if you are running Workbench 2.0, but if you're still using Workbench 1.3, you'll have to either buy and install ARexx separately, or upgrade to Workbench 2.0. If you have any questions about which operating system you're running under, consult your Toaster/Amiga dealer.

The Toastmaster drawer must be

installed in the same Toaster directory that your Video Toaster switcher resides in so that you can start up the switcher from Toastmaster. After inserting the Toastmaster diskette, drag the Toastmaster drawer icon into the Toaster drawer. Finally from the Toastmaster diskette, copy the toastmaster.library file found in the libs directory to your Sys:Libs directory. That's all there is to the installation!

Upon selecting the Toastmaster icon, you'll select between Version 1 or Version 2 Toaster software. Doubtless, most of you will select version 2. Immediately Toastmaster's elegant blue, gray, black, and white interface panel appears. Its most striking feature is a very close resemblance to the Video Toaster's switcher panel. Designer/Programmer Ken Byrd went the extra mile in creating hand-drawn croutons that were easily identifiable with original Toaster croutons, yet could not be construed as illegal direct copies (as some other companies have done).

Toastmaster version 1.5 is being reviewed here. It's unfortunate that an early



beta release of Toastmaster was "reviewed" in the June 1992 issue of AV Video. It was panned for its lack of features, the Toaster Switcher "look-and-feel" being one of them. However, at that time negotiations with Newtek were not complete as to the legal use of their croutons, and Byrd's Eye opted for the "safe" look and feel-without croutons (the Van Gogh effect was labelled A45, for example). Following NewTek's legal approval, and subsequent to the public release, Toastmaster's interface was changed to reflect the proper look and feel.

Toastmaster's Interface

ToastMaster's graphical user interface (GUI) is logical and easy to use. The left hand side contains the familiar Toaster Switcher screen, complete with custom redesigned croutons. Below these are the switcher Overlay, Program, and Preview busses. At the upper right is the Sequencer Panel, and below that is the Custom FX panel. Below that are the CLIP and TBAR gadgets. At the extreme right are the command buttons ELAPSED TIME, REAL-TIME, Script, KEY OFF, WHITE (Key on White), BLACK (Key on Black), S(low), M(edium), F(ast) transition speed buttons, TAKE, AUTO, PLAY, STOP, DELAY, GPI, SERIAL, and ARexx buttons.

Teastmaster Script Mode Overview

Toastmaster's two basic modes of operation are Script and Real-time, selectable from upper right panel buttons. Script mode is the default mode and is the one you'll most likely be using. We'll concentrate on the Script mode here. The scripting paradigm under which ToastMaster's GUI operates is that of point and clicking. No ARexx command language need be learned!

Select the Script mode by toggling it On (button appears pushed in with a white highlight). Activate the Toaster's switcher from the main menu by selecting Start Switcher from the Switcher menu. The switcher boot-up procedure will commence. Note: if you get a software guru message, don't despair. This is an unfortunate random bug in the Video Toaster's

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software if one boots from the CLI, which is essentially what Toastmaster does to activate the switcher. Just reset the Amiga (press Ctrl-Amiga-Amiga), and repeat the procedure from within Toastmaster, and the Toaster's switcher interface will be eventually displayed. The familiar Ctrl-Ctrl-Alt-Alt sequence will take you back to Toastmaster's user interface panel. We'll also assume that the Toaster's Program and Preview busses have the expected VT logo and Color Bars in DV1 and DV2 respectively. Also, connect up a camera/ camcorder composite video output source into Input 1 of the video toaster.

First set the transition speed from Toastmaster's panel to F(ast). You'll see it echoed up in the script panel. Next, select the Unsplit to Center (B11) crouton. Grid B11 will be added to the list. Select either the Auto button or press the space bar. Auto will be added to the list. Select the next crouton, Grid B12 (split from center to each side), and it will be appended to the script. Choose the Fast mode for that transition, then select on the Preview Bus Input 1, which will be listed as P001. End our test script sequence with the Auto (space bar) move. You should have created an eight-line script, which will be



shown in the Sequencer Panel. Select Play to run the script.

OK, that was a simple example. It shouldn't be too difficult a stretch of the imagination to see how complex sequencing can be achieved with a few button clicks. A comprehensive users manual goes into details how to use the various command features of ToastMaster. Rather than go into conventional scripting examples. let's show how ToastMaster can make your Video Toaster do things that were never thought possible before.

To Go Where No Toaster Has Gone Before! Multiple Color Background Sequencing.

Within ToastMaster is the ability to change the background and border colors automatically in a sequence without having to go to Toaster Preferences! We'll demonstrate this by creating a series of transitions with the Mr. Clean Effect where successive transitions use different background colors. From within the Script mode select Key Off from the ToastMaster Command Panel, and then choose Program 1, and Preview 2 from the switcher. This places KOFF, M001, and P002 respectively in the script panel. Select the Mr. Clean Effect which enters our script as Grid C47. Next, go to the ToastMaster menu and select from the Colors menu, Color Background Color-Blue, which places BACK 4 into the script. Select M(edium) speed for the transition and MEDM is entered into the script. Now go back to the menu and select Colors-Color-Green, which will place a BACK 3 command into your script. Select S(low) for the transition speed, and then Auto (or space bar). Now we'll make the sequence loop twice by entering 2 in the Loop gadget box. Running the script by selecting Play or Right-Amiga-P will demonstrate a repeat of two Mr. Clean transitions, the first set being in blue at a medium speed, followed by a second one in green at the slow speed! This sequence then repeats itself.

Automatic Spi Triggering And Altered Transition

ToastMaster's GPI functions allow very powerful control of the Video Toaster. The ability to trigger the Toaster from a ToastMaster GPI command and vary the transition speed will now be demonstrated. From the script mode, clear out any existing script (Right-Amiga-X) and select KEY OFF (KOFF), Program 1 (M001), Preview DV2 (PDV2), the Dissolve effect (GRID A48), and the Medium transition speed (MEDM). From the Misc Menu select Alter Speed. From the Panel, chose the effect to alter the speed-in this case enter A48. Check its current speed setting-



45. But we want to make it slower than "Slow", so enter 200, and press Return. This will be entered next into our script as WTGD A48 MEDM 200. Select the GPI command, and finally Auto (space bar). Verify from the ToastMaster GPI menu it's set on the + setting, and also verify from the Toaster Preferences that + is also set. Now plug a joystick into Mouseport 2, and run the program. Everything waits until you hit the joystick, at which time the GPI command is issued and we should see a very slow dissolve between Program 1 and Preview DV2. At last we have control over DVE transition speeds!

This ability to have altered-mode as well as normal Toaster effects pre-loaded, only awaiting your external GPI command, can be a very powerful time saving feature when performing video editing.

Saving and Loading Toastmaster Scripts

After all our work creating ToastMaster scripts, saving them for future use is simple. From the Project Menu select Save, and then select Disks and select your chosen path. In my case, it's a drawer called ToasterWork, and the filename is TMscript1. Conversely, recovering the script is done by selecting Project Load, which automatically brings up the last saved script into the loadscript window. Highlighting this brings up the file into the requester. Selecting OK loads the script into the sequencer panel.

This brief discussion of ToastMaster only touches on some of its interesting features. Automatic CG page loading, and scrolling followed immediately by crawling are all possible! The program is friendly and intuitive enough that it's fairly easy to experiment with different functions. The well written User Manual goes into areas not mentioned here.

Wipemaster: Overview And Requirements.

Wipemaster is a separate stand-alone program from Byrd's Eye that permits your Video Toaster to perform customized wipes. Because wiping is a true video application, the wipes must be created with Deluxe Paint IV (either 4.0 or 4.1) in Max Overscan mode. The preferred settings in

DPIV to create your custom anims are Hi-Res, Max Overscan, and 2 colors. Also, the anims can be compressed with Power Packer. The commercial program Power Packer Professional 4.0 is an excellent program for this. Powerpacked, your anims can remain compressed at 60% of their normal size on your hard drive and then be decompressed "on-the-fly" as they are played out from WipeMaster. WipeMaster uses "ppanim" the compressed animation player to play back either compressed or standard anims.

Toaster 2.0 software must be running in your system, as well as the Amiga's new 2.04 operating system. If you haven't installed this Amiga 2.04 upgrade yet, now is the time. Your entire Amiga system will love you for it, and the new Toaster 2.0 software will perform much better too!

Theory

The key (pun intended) to the way WipeMaster allows user-customized anims is the Toaster's Art Card effect (keyhole symbol on Bus F, row 4, column 6). The Art Card effect allows a selected Overlay

Bus input as a key source. If you then set up different video sources on Program and Preview, this Overlay Bus key source actually keys the Program with the Preview busses. Now if this Overlay Bus source were a 2-color black and white animation, the black areas would "hold" one video source, and the white areas would "key" the other video source. With this proper key level setting, the Toaster's output would be your own custom wipe!

Connections

WipeMaster uses the Toaster's Preview output as its keying source. If you use a three-monitor configuration, split the Preview output with a Y connector so that in addition to feeding the Preview monitor, it also feeds the Toaster. Input 4 is the assumed choice by default. If you use a 2-monitor setup (orange interface), connect the Preview output directly to Input 4. Note: you can also use Toaster Inputs 2, 3, or 4 for this special keying source, but these should be set and saved as user preferences in WipeMaster's configuration window. Note: On WipeMaster's Overlay



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bus, Input 1, DV1, DV2, and BKG are ghosted and unuseable because the Toaster usually needs Input 1, and there are no external connections for DV1, DV2, and BKG.

Wipemaster's Configuration Screen

Following successful loading of the

WipeMaster libraries and program, we are shown the WipeMaster configuration screen. At the right are the Save Prefs, Initialize, and WM buttons. Save Prefs saves the entire

a WigeHaster configuration

Anin Path Delay
F6 Anims/Filmanin 2 SAVE PREFS INITIALIZE MM
F7 Ran: HipeMaster/Anims/Fil 2 2 3 4 PREFS INITIALIZE MM
F8 Ran: HipeMaster/Anims/Sta 2 1 2 3 4 PREFS INITIALIZE MM
F9 Anims/Finms/Sta 2 1 2 3 4 PREFS INITIALIZE MM
F9 Ran: Starsarch anim 1 Program
F10 Ran: Starsarch anim 1 1 2 3 4 DV1 DV2 BKG
Frinish on PMHITE PERCK PHHITE PERCK PHHITE
F6 F7 F8 F9 F10

you have a special application, you should

change it here. Similarly, you must select

the desired Program and Preview video

sources, keeping in mind that a wipe tran-

sition is performed from the Program to

the Preview bus. The bottom of the

WipeMaster configuration screen has a row

WipeMaster

current state of the configuration screen. Initialize makes the Toaster ready for a custom wipe (it's fooled into thinking the Art Card effect is still active). The WM button (keyboard equivalent is "w") also places the Toaster into its ready state.

Immediately below, the desired state of the Toaster's Overlay, Program, and Preview busses are shown. For the Overlay bus, Input 4 is the default setting, but if of five buttons, which can be toggled from Finish on White to Finish on Black. Each button refers to the animation which will be run by selecting the F6-F10 keys. If your custom animation finishes on white, select White, if it finishes on black, select Black. If you wish your custom wipe to transition to one video source and then back again, you'll have to design the anim so that the first time it animates from full Black to

full White, and then later it must animate from full white back to full black. In that case you must select Finish on Black.

The left side of the WipeMaster configuration screen has five Anim Path row gadgets for your desired custom animations. By default, they will load up with

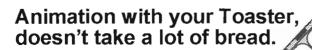
some test custom wipes provided by Byrd's Eye. The F6 s e l e c t i o n "film.anim" and the F8 "mondrianic.anim" are my favorites. Film.anim is an el-

egant rotating film cannister that unwinds a spool of film which becomes your next scene. No, it's not a digital effect whereby the actual video comes literally spooling off the film to reveal a full frame, but it achieves a very nice effect. Mondrianic anim resembles the artistic style of Mondrian with its heavy horizontal and vertical bars which animate to form a new scene.

The Delay gadgets are used to control the playback speed of the anim. Rates from 0 to 10 are possible, where 0 is the fastest and 10 the slowest, which delays 1/6th second between successive frames. Technically each delay number represents 1/60th of a second. Also, the number loaded into the delay box will be the default speed of your animation.

So, what if you want to load in your own anims? Nothing could be easier.

For us "point-and-clickers", just call up the anim icon of your choice, and from WipeMaster's configuration screen select the F6-F10 animation path gadget of your choice by clicking anywhere in its window, then drag your selected anim icon into the gadget. WipeMaster automatically extracts its path and enters it into the gadget. For you CLI users, simply type in the complete path description. Do this for each animation selected, then select Save Prefs to save all the configuration screen settings. Select Initialize ("i" is the keyboard equivalent) and wait for WipeMaster to set



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up the Toaster.

Don't be upset, after initializing, when the RGB screen goes black. That is by design. A black RGB screen allows the Program source to be keyed through. White allows the Preview source to be seen. You can verify this by toggling between F1

(black) and F2 (white) and observing that the Toaster's output cuts between Program and Preview.

Once initialized, it's just a simple matter of selecting

the F6-F10 keys for your desired custom animation! Following a custom transition sequence, the RGB screen remains in the final color. To return to the WipeMaster configuration screen, select the Esc key.

Future Custom Wipe Packages

Ever since Toaster 2.0 arrived, it's been rumored that custom wipes for the Video Toaster would be available. Thanks to WipeMaster, that rumor has become a reality! Now we can create our own unique wipe animations! But wait, there is always the problem that we may not be the best graphic artists, or may lack the time to create the animations. This is where other third party graphic artist developers can help with their new animation packages. Among these initial third-party releases are a professional series of high-resolution (no jaggies), maximum overscanned, black and white anims designed specifically for WipeMaster. For more details, write to: Uncle Ernie Videographics, 125 Aristotle, Simi Valley, Ca. 93065. Other developers are sure to follow suit. Look for their announcements in future issues of Video Toaster User.

Uncompromising Dealer Support

I've had the pleasure of meeting Ken Byrd, the developer of both ToastMaster and WipeMaster. In my opinion, he is a rarity among software developers. Professionalism and great user support are his company's hallmarks.

He has travelled from the wilds of Texas

to our Los Angeles Video Toaster User Group and San Diego Toaster User Group to present hands-on demonstrations of both ToastMaster and WipeMaster, which received rave reviews. He also sought and received direct user input on the "lookand feel" of WipeMaster. In addition, for a



ToastMaster 1 6 1

limited time, Byrd's Eye is offering a coupon with every copy of WipeMaster for a free copy of an upcoming product, the Toaster Project Manager (retail \$99.95). Both ToastMaster and WipeMaster are available from Toaster/Amiga dealers, distributors, and mail-order companies.

The Bottom Line

ToastMaster and WipeMaster are truly the next generation of Toaster tools. With

ToastMaster, you can make your Video Toaster perform a sequence of events that would be impossible under normal circumstances. And all this can also be under GPI control for video editing purposes. The script sequencing in WipeMaster is automatic and effortless. Using the companion

product, WipeMaster, custom wipes are at last available on the Video Toaster! And the forthcoming Toaster Project Manager from Byrd's Eye Soft-

ware promises an even better way to customize our own Toaster projects. Thanks to Bird's Eye for giving us the tools for making our Toaster productions so much more exciting and powerful!

Wipemaster SRP \$199.95 Toastmaster SRP \$149.95 Byrd's Eye Software 9001 Northgate Blvd. #135 Austin, TX 78758 Phone (512) 835-4811 Fax (512) 835-1229

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The **BreadBoard** cables into the Video Toaster feature connectors; uses none of the six external BNCs.

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Toaster Toolkit



By Frank Kelly



et's face it, no matter how well an idea is conceived there is always room for improvement, a way to make things a bit

more useful or easier to work with. The folks at the Byte Factory have come up with a collection of utilities called the Toaster Toolkit which greatly help to "improve" your use of the Toaster. Don't let the term "utility" mislead you. Toaster Toolkit's programs are a far cry from many of the "utilities" programs that I have seen over the years for the Amiga, some of which have just been quick hacks put together with no thought of the less sophisticated user who may not be all that familiar with the protocols of CLI. In Toaster Toolkit I am happy to report that each module is well thought out and has a very easy intenface to follow

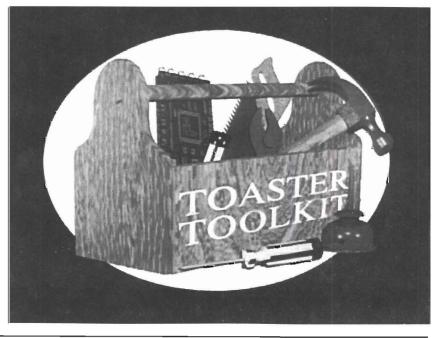
Let's look under the hood!

Byte Factory was intrigued by the idea that the switcher interface of Toaster was

not limited by the confines of the hardware in respect to the addition of new wipes and effects. In the past all switchers were limited to the effects they came with and you couldn't get new ones without having to buy new hardware panels. This lead to

them beginning to examine the possibilities of marketing custom wipes for the Toaster as a stand-alone product. In the process of examining the Toaster's software for hints on developing custom Toaster wipes and effects, Byte Factory has developed some great little programs that will probably become indispensible for anyone using Toaster in a professional environment.

First on my list of favorites is the the Toaster Project Editor, which allows you to rearrange your effects croutons to your own liking and change default speeds of the effects. There have been many occasions where I would have preferred certain of my favorite DVEs from Toaster version 1.0 to be available without having to load the entire 1.0 project. This is now quite easily accomplished with The Toaster Toolkit's Project Editor. When you open the Project Editor window you are greeted with a screen that looks very much like the Toaster's Switcher interface. The current project's effects banks (a thru f) are all accessible from this screen by clicking on the appropriate crouton. Using this interface you can easily click on an effect and copy it to a clipboard displayed below the switcher panel. You can access other project's wipes and effects from this same interface to "collect" various effects you



wish to add to any particular existing project or an entirely new one. Once you have collected your effect(s) to the clipboard it's a simple matter of clicking on the new position in the switcher panel you wish the effect to reside and using the swap/copy button to place it.

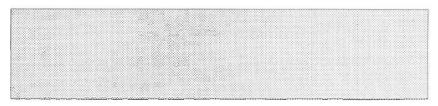
Changing the speed of an effect is even easier, just double click on the effect you wish to modify and a requester appears on screen for you to enter new values for the default settings of Slow, Medium, or Fast. Speed values are entered in increments of 60ths of a second for those editing version 1.0 Toaster effects. For Toaster 2.0's animated effects, you enter the delay between frames of an effect. You can create a "catalog" of your favorite effects by building a list from assorted projects and then create a custom version for each project. To be honest, this module alone would have been enough motivation for me to run out and buy this package, but in the tradition of the Ginsu Knife just let me say "But wait, there's more!"

The Frame Store Compressor

WIth Newtek's 2.0 software there were great improvements in the file format of framestores which allowed for smaller file sizes and much faster loading of framestores. Even with the new file format, however, framestores still take up large amounts of space on your disk, and though it is possible to resave a frame from Toasterpaint to yield more disk space savings, sometimes the results are less than desirable when it comes to picture quality using this method. The Frame Store Compressor (FSC) uses its own compression routines to "squeeze" a framestore into less space on your drive, with no apparent loss of image quality whatsoever. A word of caution to those of you who have not yet upgraded your Toaster software to 2.0. This module of the Toaster Toolkit will only work with Framestores that were saved in the 2.0 format. Bear in mind that once you are using 2.0 Toaster Software, you can load any 1.0 framestores and resave them with the new file format and then take advantage of this module of the

Toaster Toolkit.

This module can be used in two ways, either in the background in "snoop mode", compressing any eligible framestores unattended when it finds them, or in manual mode when you decide which framestores you wish to compress. One of the nicest things about using the manual mode of the





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FSC is the ability to "preview" framestores in a smaller screen format black-and-white mode. This can save several minutes of loading time when all you are trying to do is decide whether or not you want to keep older framestores that you accumulate over time. FSC allows you to delete and rename framestores as well as save an IFF snapshot of the black-and-white preview image. This could be very useful for building of storyboards or importing framestore images into desktop publishing or paint applications. Incidentally, you do not have to have Toaster running to use this or any other module. By using this utility in the snoop mode, I was able to get back over 25 megs of hard disk space. Although the process took quite a long time, it presented no problems running in the background to my other activities both in and out of Toaster. And, none of the frames that were compressed looked any different after the process than before. There is one issue of particular interest to those of you who do not yet own an accellerator board: these newly

compressed framestores will actually take a bit longer to load than before, but you will be saving anywhere from 30 to 80 percent of their original size, so this tradeoff may be worth the trouble.

Toaster Sequence Editor

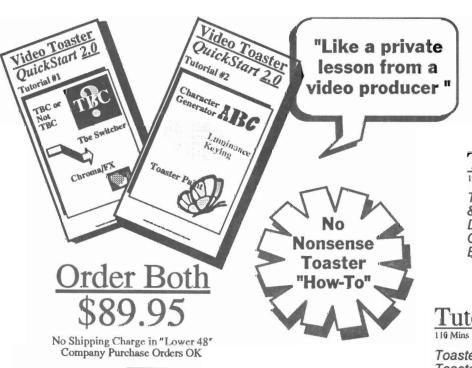
Toaster allows very good implementation of ARexx for its control from other software, but to those of us who have not forged into the ARexx territory Toaster Sequence Editor (TSE) provides an easy way to generate canned sequences of Toaster effects and other operations without having to know ARexx language. In fact, you don't even need ARexx installed on your machine to use this module because it gives you the option of creating an ARexx script from the sequence, or its own standalone format which can be executed with a provided player utility program. By using a point-and-click interface, you can whip out a sequence in nothing flat. Once the module is running, you see the familiar looking switcher style screen with gadgets that allow selection of effects banks A thru

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F for your effects and Plus and Minus gadgets to add or delete items from your sequence script. The Undo gadget gives you the ability to retract your last act gracefully, and the Call gadget allows you to bring a previously saved sequence into your new script. There are other gadgets that give you the ability to loop portions of your script (such as in the case of a cablecast or hotel info board) or to create CG pages, enter comments to be displayed on the screen, sounds to be played, frames to be frozen, saved, loaded, control of luminance keys, setting background colors, loading and setting duration times of effects, wait for GPI, etc. In fact, anything you can do manually with the Toaster you can accomplish with the TSE. This module will be invaluable for those wishing to harness the power of the Toaster for use in multimedia displays or interactive kiosks.

I was able to create a sequence for making customized demo tapes to market my services as a video producer to specific creative directors and their respective ad-



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vertising agencies in about a half hour. The beauty of this particular application was that I was able to insert customized CGs that named the individual throughout the presentation without having to do much more than type a text file with their name and ask TSE to load it for use in the previously saved sequence. I can conservatively estimate that it would have taken me at least two intensive hours of production time to recreate each customized demo reel for these client pitches. Now all I have to do to create a new "customized" pitch is change the text in an ascii file, press record on my VTR, execute the TSE sequence, and go to lunch, when I get back, I simply edit the sequence for time, insert some of my latest footage that might be appropriate to that particular client's needs, and it goes out the door ready to impress the pants (or skirt) off my prospective new client. (Please note that the ASCII text load feature for CG is supported in Toaster Software versions 2.0 and later)

I want to stress at this point to everyone

that I am not a programmer type-there is no propeller beany on my balding but nonetheless pointed little head. For me to be able to accomplish this level of sophisticated machine manipulation thru easy-touse software was an eye-opening experience, especially since I didn't have to learn a lick about ARexx. For those who own Toaster and thought you would only use it for video production but never for multimedia because of the "pain" of programming, you're in for a pleasant surprise. With TSE, even the faint at heart will be able to build scripts which can then be executed either with the player utility or from a crouton on their own customized switcher panel by using Toaster Toolkit's MacroEffects.

The Latest Additions!

At the time of this writing, I received a couple of added modules which although not in their completed form, will nonetheless be a part of the next version of the product which should be on dealer's shelves by the

time you read this. The AnimFX module, which converts your two-color DPaint Sillouette Style animations into Toaster wipes that can then be installed as croutons on your switcher panel. Crouton2Brush, and Brush2Crouton which allows the conversion of crouton graphics to brushes and vise versa. Because the features and interfaces of these modules is likely to change, I will not go into any great detail at this time, but with these particular tools you will be able to create your own "Kiki" style effects. Imagine your company logo flying in for the transition to the next scene without having to do anything more than click your custom effects button from your customized control panel. Pretty heady stuff!

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Virtual Reality at "Club Lingerie"

By Joe Clasen



rom all the "Toast on the Road" shows I have done, I would have to choose the Virtual Reality night at Club

Lingerie in Hollywood as the most fun. It was certainly the strangest one. A friend was producing a two-day event of "Virtual Reality" for a band of the same name and we both thought a Video Toaster would come in handy. Club Lingerie is a dark, trendy spot on Sunset Boulevard where underground acts showcase for that elusive prize, the record deal. Performance artists, dancers and musicians made up an eclectic bill that was supported by an equally odd assortment of virtual environments including a Mandala setup, various altered film loops, cool prism effect generators, and our Video-Toaster "Lumi-Net".

People are quickly absorbed into the pseudo-virtual realities.

My wife Susan and I arrived about 4:00 on Saturday, the day of the show and met the show's producer. We set up in the back of the nightclub on some tables of dubious stability. We then proceeded to build a giant Lumi-Net. With a large black velvet curtain, we made a makeshift cyclorama that would allow us to use the black luminance key of the Video Toaster's switcher. For reference, the best results were produced by two 1000-watt shuttered lights placed about 12 feet apart. We placed them about 8-9 feet in the air, facing down at a 30-degree angle. The shutters allowed maximum light on the subject and as little light as possible on the backdrop, allowing a very clean black luminance key to be obtained. A large monitor allowed the participants to interact with environments recorded on laser disk and videotape. A person standing in the Lumi-Net could be overlaid into ocean scenes or sent flying over land and sea like Superman. Flailing wildly at the air to interact with the altered environments, people were quickly absorbed into the pseudovirtual realities.

With our system in place, we hooked up to the house video system. Operated by a mad scientist-type named Video-Bob, our input could be switched into

the house playback system of several monitors throughout the club as well as the ten-foot projection screen. Video Bob provided black burst for house sync and everything eventually locked in place. In addition, Video Bob had four cameras with remote control on stage that he could adjust by himself in a rack. A Panasonic WJ-MX12 mixer allowed Video Bob to mix inputs with the usual strobing and color effects. We hooked up to his inputs so he could switch us into the program or do overlays on top of the performers with a half-switched crossfade. I was impressed that Video Bob played his switcher and camera servo-motors without watching the controls, only watching the preview monitors for his cameras. Angling the cameras and adjusting his switcher by touch alone with the degree of expertise he demonstrated was an impressive sight. With a 3/4"

VTR for recording, Video Bob could record an instant MTV type video while the band performed. Even though he obviously lusted for the effects that the Toaster could provide, he pointed out that he needed his eyes and hands free to work in real-time. He wondered if the Toaster could be made to run with a rack mounted touch screen, or at that rate, a power glove. If anyone could, it would probably be Video Bob.

We also had the considerable graphic talents of my wife, Susan, with her trusty Amiga 1000 and DeluxePaint. Using one of the switchable inputs to my Toaster, she could quickly draw on someone or use the cycling color trick to produce wild backgrounds. She also had a couple of audience participation animations where people could, for instance, dance with a skeleton. By the time we got everyone hooked up, got a color bal-

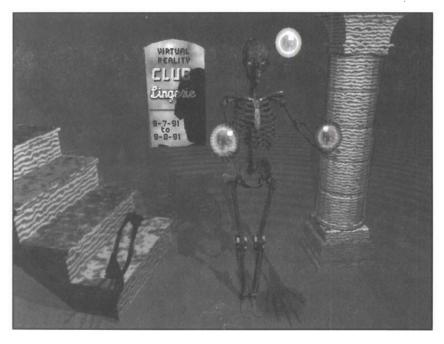
ance on the camera and had our lines checked, the audience started to enter.

As people wandered in they were greeted with a wild assortment of interactive environments, sort of a hitech fun house. Near the front of the club a Mandala setup allowed people to bang on a computer-generated drum or Bart Simpson's head and have it respond in real-time. A brain wave synchronization device tempted some people while a Macintosh interactive station amused others. At the rear of the club we tried to get people into the Lumi-Net. The most popular effect was setting the Trails on Black crouton up high enough so that people could use their arms as brushes and draw in thin air. By coordinating between the movement of the camera and the amount of luminance key and movement of the participant, we got some great looking results. A few drinks made the volun-



teer process a whole lot easier. Before too long the emcee took the stage and the show began.

Carel Struycken, the emcee, opened the show playing on the Mandela setup with a pre-recorded sample of himself saying "Welcome". (Mr.Struycken might be better known to you as Lurch in the The Addams Family movie or from his appearances on Star Trek: The Next Generation.) I had rendered a couple of title pages in Lightwave for the shows and had one up on the monitors as he made a few remarks about the night's performers. He would occasionally reach out into thin air while speaking and fire off another sound sample from the Mandala system just for fun. As the warm up act took the stage, Mr. Struycken came back into our Lumi-Net and we all watched his "Virtual Painting" on the monitors as he danced to the music. Although difficult to explain, a certain rhythm develops as the camera man zooms and pans, the dancer sways and I adjust the "Trails on Black" effect. The effects can be mesmerizing, both for the observer and the participant. Before long almost everyone forgot they were just standing in a nightelub waving their arms in the air and instead reacted to

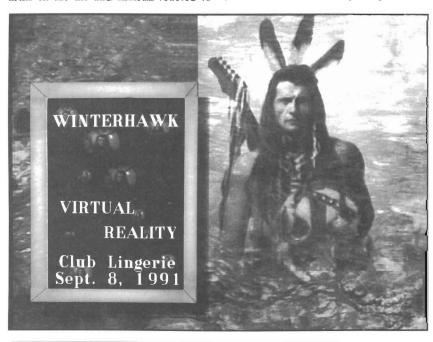


the music and their own virtual finger painting on the video monitors. As other volunteers came through, we keyed them into other environments, altered them using the ChromaFX, and drew on, around and behind them with DeluxePaint. The hit of the show, probably because of the 120 decibel music, was the ineractive dancing with Trails on Black. Not even Video Bob could resist the opportunity to be a human paintbrush. After the oppening act fin-

ished and a performance artist presented an experimental composition, the band "Virtual Reality" was up and we shifted into a slightly more structured approach.

We had an idea what kind of visuals we wanted to produce behind each of the songs that the band was to perform. Sometimes we would show prerecorded video by "video artists" such as REZ-N-8, Metrolight, and Zbig Vision during a certain song. Two 3/4" Umatics fed the Toaster which in turn fed the house system (aka Video Bob). I used the Switcher to go between the two tape decks, the house feed that Video Bob fed me, or a framestore. Video Bob used my feed with overlays, Chroma-FX and Switcher effects. He then added his effects from his Panasonic WJ MX-12. I think more people were watching the monitors than were watching the band. We had a good time mixing the canned stuff with the camera and videotapes. The next challenge was to mix in live performers,

Some of the songs that the band performed were choreographed by a group of Cal-Art dancers. One such song involved a group of "Cats" performing to the music. Because we spent an hour



fine tuning the Lumi-Net with volunteers, we already knew the best settings and rhythm. We used the "Trails on Black" effect and combined the dancers with the band on the screen, providing a stunning montage. Another song had a detective type in a trenchcoat and a femme fatale exploring each others viscera. Everything seemed to fall in place naturally and looked great. This was good because with the extreme sound level of the band, we could never have given or heard directions.

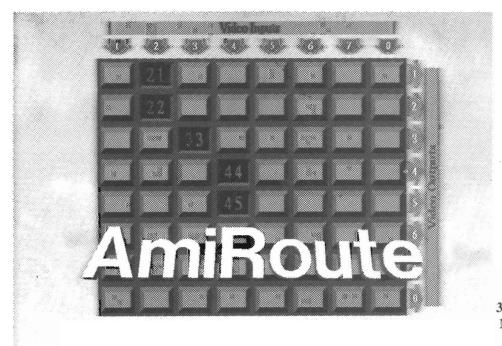
After Virtual Reality finished playing, another band finished out the night's entertainment. By midnight we had no lack of volunteers as many individuals and pairs of curious people danced in the Lumi-Net. One woman was so impressed that she arranged to make a video with the producer of the show, scheduled to be released in En-

gland. After 2:00 A.M. we packed up and left.

The next day, after finding a parking place on Sunset Boulevard, we set up at Club Lingerie again. We found parking to be the toughest part of the gig. Virtual Reality was playing again, but with different supporting acts. One of the acts was a group I had previously worked with at a club called Vertigo in downtown Los Angeles. The band was called WinterHawk, and I had already stored a number of framestores from the earlier show. With ToasterPaint it was easy to alter the title page of the Vertigo show and lay down the Club Lingerie logo in its place. In a spare moment I grabbed the image of the club with my camera from a neon sign on the wall. As the band played I presented a framestore slide show of contemporary Indian art, crafts, weavings and structures. After

Winterhawk, Virtual Reality took the stage and we reinvented the previous day's performance. The great thing about live performances is that no two are quite the same.

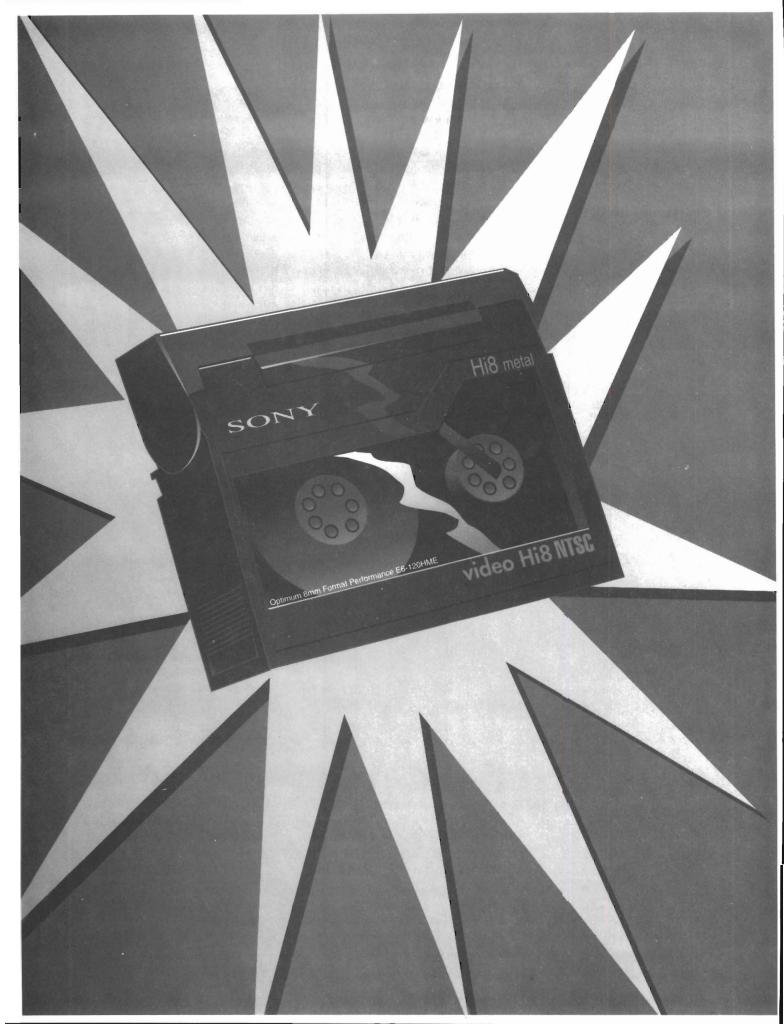
I know that single frame recorders and learning the mysteries of bumpmapping are fun, but I think there are uses for the Toaster that we have not begun to imagine. When Leo Fender developed the classic Stratocaster electric guitar, I am sure he didn't anticipate what Jimi Hendrix would use it for. I would hope everyone adopts the same explorative philosophy with the Toaster, experimenting with it in new ways as new features are released. At Club Lingerie I discovered that sometimes the most stunning results and the most fun can be the serenditpitous result of spontaneous creation.



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TOASTER EDITING WITH THE SONY EVO-9700 HI-8 EDIT DECK

by Charles Eaton, Ph.D.



he Sony EVO-9700 Hi-8 to Hi-8 edit deck links up beautifully with the NewTek Video Toaster to make frame-accurate fades, dissolves, and organic effects. However, getting reliable information on how to connect these units and adjust their set-

tings properly can be an exercise in frustration. I had several Sony dealers in San Francisco tell me that EVO-9700 "was not designed" to interface with units such as NewTek's Video Toaster. That is probably true—who could have imagined the Toaster before its time?—but Sony did provide for processing external video/audio sources, and the Toaster fits like a glove.

In this article you will learn the proper settings and connections for both the Toaster and the EVO-9700, and how to build a GPI (General Purpose Interface) cable to trigger the Toaster.

But first a few comments about the Hi-8 format. Sony, in its marketing plan, intended Hi-8 to be used as an acquisition medium—not an editing format. Using professional 3-chip cameras, Hi-8 video with its 400+ lines of resolution is (at its absolute best) acceptable in television broadcast when bumped up and edited on 1-inch or Beta SP, and the lower cost (compared to \$30,000 professional camcorders) led to the use of Hi-8 in covering the Desert Storm news. Hi-8 video edited in professional suites can be very impressive.

Sony targeted another marketing slot in the industrial/educational area, and designed an editing system linking a Hi-8 player with a 3/4 SP edit deck—which

is a rugged and reliable workhorse. this is a very successful combination (and no problem at all in linking to the Toaster). After the second generation edit, 3/4 SP editing holds the quality of its signal well-while Hi-8 to Hi-8 begins to slip rapidly. However, the Hi-8 to 3/4 SP cuts-only edit system costs about \$13,000.

Sony also entered a "prosumer" market for those businesses which would like a compact desktop Hi-8 to Hi-8 editing system that is very user friendly and which is capable of using Sony's Hi-8 time-code in setting up as many as 99 complete edit sequences on its internal computer—and is priced competitively. The EVO-9700, at \$5,200 (mail-order at around \$4,800) is a very impressive unit. Within a few months there will be a Toshiba competitor to the EVO-9700 using all Sony EVO-9700 parts in an identical (or superior) Hi-8 edit deck at an even lower price.

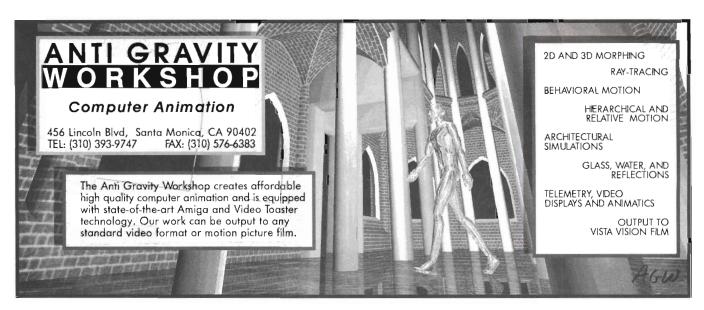
The EVO-9700 has its limits (many of which are overcome by the Toaster) as a cuts-only editing system, but everything it does is done cleanly and well. OK, the character generator is a complete clunky loser, but the Toaster

will take care of that. The Hi-8 time-code works beautifully, and the EVO-9700 is absolutely frame-accurate—even making edits on the first or last frame of a video-segment (something which the Hi-8 to 3/4 SP combination can't always do—a problem as well with many professional formats).

While the EVO-9700 can compile 99 End-points and 99 In-points on its internal computer (and perform these edits automatically) it cannot dump this information as an edit list to be used on other computer driven edit-list systems. It also will only save these edits on tape that has been recorded on itself or on a camera which lays down Hi-8 time-code (such as the professional Hi-8 cameras and the "prosumer" EVO-9100). One way around this is to take Hi-8 video recording that is not timecoded and have the EVO-9700 lay down a time-code track on it. Make your edit-list program based on this time-code information. Then, when it is time to save there programmed edits, remove the acquisition tape, insert another tape previously recorded on the EVO-9700 (use regular 8 mm for economy) and save the programmed

edits to this second tape. Using a third and fourth tape, several variations of edit lists can be saved using the same original material,

One of Hi-8's greatest strengths is in the audio department. All video formats have brilliant hi-fi tracks which are Frequency Modulated along with the video information. If you replace the video portion with some other scene, you have necessarily take out the audio as well. Most professional and consumer formats take care of this by having additional linear tracks outside of the video area which function just like audio tracks on traditional audio recorders. The higher the tape speed (as on professional systems) the higher the quality. But all linear audio systems degrade in sound when you get to multiple generations. Not so Hi-8, which records PCM digital sound (like DAT audio decks) using the highspeed helical scanning heads-but outside of the video area. Just for fun, I edited Hi-8 audio through ten generations. The result, which was absolutely predictable, was no loss of audio quality at all. An external audio mixer can enhance the EVO-9700's flexibility,



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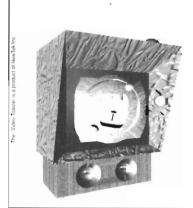
but Hi-8 PCM audio quality is without editing competition among prosumer formats-and stacks up well against high-end formats.

But a cuts-only edit system (although straight cuts make up perhaps 95% of all well-edited videos) is frustrating when compared with the A-B roll techniques and the organic dissolves seen everyday on commercial TV. It is here that the Toaster steps in. The Toaster's ability to freeze the last frame of an edit and then to dissolve that frame into the next scene is a very powerful emulation of expensive A-B roll systems. For this reason the ability to connect the Toaster to the EVO-9700 is highly desirable, but can it be done? Absolutely. Most important is to achieve an automatic and frame-accurate triggering of a Toaster effect. This is done through the Pause-Out jack of the EVO-9700. (Another way to use Pause-Out is to link it with a standard VHS deck. Then, as programmed edits chunk automatically out, the VHS deck stops and begins edits right along with the Hi-8 Record deck. This means that you are editing straight from your Hi-8 acquisition tape to the VHS copy—saving an entire edit generation).

Link up to the Toaster by first building a shielded two-conductor GPI cable with a male mini-plug on one end and a female DB-9 connector on the other. (see Appendix 14, The GPI Trigger of the Toaster Manual-although the illustration is misleading). Solder the center wire of the mini-plug to pin 6, and ground or outer-shield wire of the mini-plug to pin 8 of the DB-9. Insert the mini-plug into the Pause-Out Jack of the EVO-9700, and the female DB-9 into the second mouse port of the Amiga 2000 or Toaster WorkStation. (The opening of the second mouse port may be too small for some DB-9 assemblies. Check this before soldering).

Now adjust both the IN POINT ADJ knob and the OUT POINT ADJ knob on the EVO-9700 to "00". (The switch between these two knobs will display their settings on your monitor). Set the Pause Mode Select switch up to "A:" (Active High). Connect a BNC cable from the EVO-9700 Player-Out to the Toaster Input #1. Connect a BNC cable from the Video Toaster Program Out (BNC #5) to the EVO-9700 Recorder-In. On the front panel of the EVO-9700, set the Recorder-Input to PROCESSOR, and switch from S-Video to Video for a composite signal





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to the Toaster (which will not accept separate luminance and chrominance signals).

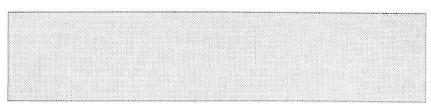
At the Basic Video-Toaster screen display, click on the "?" icon. At this new screen display, click on "GPI -" (choosing a negative GPI signal). All adjustments have now been made.

The basic procedure to emulate A-B roll fades and dissolves is first to pause at the final frame of the last completed edit. Click on the Frame-Grab of the Video Toaster, then mark the Player IN and out points for the next edit. Choose a Toaster effect, activate either PREVIEW or RECORD, and the preview or edit will be made smoothly and automatically.

It is not possible to program sequences of effects. But you can complete an entire program of edits on the EVO-9700 and then go back and use Insert Video Mode to put in whatever fades and dissolves seem to be appropriate in the over-all esthetics of the tape. The advantage of this procedure is that you use the computer edit-list power of the EVO-9700, with its capacity to make slight or major changes in the sequence and size of edits. Your first use of Toaster effects will almost undoubtedly be overdone, and you will

want to return and do simpler transitions at a later date. Furthermore, by inserting the Toaster effects after the initial edit is made, the Master Edit is made using the internal S-Video connections of the EVO-9700, and only the Toaster effects themselves go through its composite video section. NewTek claims minimal degradation, but appears to be a loss equivalent to one generation of edit-which, in color-under formats, I am not willing to make (although your requirements may be less stringent). If you decide to use the Insert Video Mode to put in Toaster effects after you have done your cut-edits on the EVO-9700, always identify the OUT point on the RECORD side to avoid eating-up timecode and slopping over on the edit. Failing to observe this practice results in the most severe operator failures that I've seen among EVO-9700 users.

The EVO-9700 is a flexible and powerful editing tool at a price that brings it within consideration of many videographers who have to pinch pennies. With the enhancement of the NewTek Video Toaster, it becomes the editing centerpiece of some very effective videography. VIU





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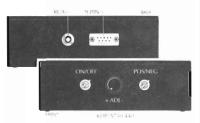
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DEALER INQUIRIES WELCOME

Toaster Talk (continued from page 03)

ics? You're going to start seeing a lot more full-color, Toaster-produced art printed in the new glossy pages of Video Toaster User. So, if you have some nice LightWave frames or ToasterPaint images that you'd like to see printed in all their full-color glory, send them in ATTN: Art Department.

Naturally, we are excited to be involved in a business that is growing in such dramatic leaps and bounds. Of course, none of this would be happening if it weren't for the success of the Video Toaster. But, as amazing as the Toaster story is, I'm even more amazed at how quickly the video market has reacted to the Toaster.

The Toaster has achieved that rare and legendary status as a "STANDARD". I began to suspect this was coming when I noticed all the TBC makers addir

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like "Perfect for the Toaster" or "Toaster Compatible" in their ads. I knew it was true when I began to see allegedly competitive products being described as "Toaster-Like", and product releases that said things like "...this product is aimed directly at the Video Toaster market ... " You know you're in the driver's seat when your competitors mention you in their promotional literature.

Another fascinating aspect of the Toaster phenomenon is the quickly growing mini-industry of Video Toaster add-on product and service providers. This magazine is testimony to the increasing vitality of this all-important Toaster infrastructure. In this issue there are almost 100 advertisers offering Toaster-related products and services for Toaster users. In the coming months you can expect to see an even greater explosion of Toaster-specific products hitting the market. At the same time, the network of authorized Video Toaster dealers is growing at a rapid pace. Will we soon see the day when Video Toaster is a household word?

I have some thoughts about the future of desktop video and NewTek's potential role in it which I will share with you in the next issue of Video Toaster User. For now, I'd like to talk about a couple of items of more immediate interest.

During my last trip to Topeka in fate July, I had a chance to speak at length with NewTek's Daniel Kaye. He told me how rapid progress was being made on the Macintosh/Toaster interface (officially called ToasterLink/Mac.) He was excited about some of the performance breakthroughs that Alcatraz had achieved. For those of you who are unfamiliar with this product, ToasterLink/Mac (TL/Mac) is the hardware/software interface that allows Mac users to control certain Toaster functions from a Mac interface screen. The Mac user gets a interface screen similar to the standard Toaster Switcher interface. This version of TL/Mac does not provide direct control of the ToasterCG. ToasterPaint. LightWave or Modeler from the Mac, although that is planned for future versions.

What this version of TL/Mac does is give Mac artists, illustrators and designers the ability to quickly and easily transfer graphic files back and forth between the Mac and the Toaster. With TL/Mac, the thousands of gifted Mac artists who use Photoshop and other Mac graphic programs, will have a way to manipulate and, most importantly, output their art to video without leaving the familiar Mac interface. This video output capability is extremely important because there is nothing available on the Mac side that outputs a video signal at the quality level that the Video Toaster is capable of producing (If you are skeptical about that last sentence, pick up a copy of the Aug '91 issue of Mac User magazine. It contains a comprehensive lab report on all available Mac/video products and compares them to the Video Toaster. To put it bluntly: the Toaster blows them all away in terms of outputting a broadcast quality video signal.)

Besides putting the Toaster Switcher interface on a Mac screen, one of the most important things that ToasterLink/Mac does is send graphic files from the Mac to the Toaster (and visa versa). It does this file transfer through the SCSI port of both computers so its very fast. How fast? Daniel Kaye was talking about I MB/second transfer rates! Now, that's just the straight data transfer. If you want to do format coversion, that will add about 20 seconds/MB to the process.

Here at AVID Publications, we do a tremendous amount of file conversions and transfers. Almost every screen shot you see in this magazine began life as a Toaster framestore or an Amiga IFF file. These files are converted to TIFF format and then transferred from Amiga to Mac via the serial port using a null modem cable. Typically, the conversion and transfer process takes about 12 minutes per megabyte. 12 minutes isn't too bad if its only a 1 meg file (which most are), but the covers are always much bigger. The cover on this issue was 17 megabytes! It doesn't take a mathematician to figure out how much time ToasterLink/Mac is going to save us.

I'm excited to get my hands on this product for my own selfish reasons, but I'm also excited because our company is based in Apple's backyard and I can't wait to introduce all of our Mac-using friends to the Toaster via ToasterLink. On a national scale, ToasterLink should go a long way towards introducing the wonders of the Toaster to a whole new group of cre-



ative, techno-literate computer users. That's obviously good for us: more Toaster owners equal more potential VTU subcribers. It's also good for you: more Toaster owners equal a bigger installed base, which means more Toaster support and development. ToasterLink/Mac is currently in the final stages of development and is scheduled to ship in early October.

On a personal note, Laura and I are proud to announce the birth of our son Conner on July 2. I spent most of the month of July at home helping Laura and watching all the Toaster tapes that had been piling up. New tapes are still coming in and next issue I will report back on my favorites.

Until then...

Jim Plant Editor/Publisher

P.S. A special congratulations to Lee and Kathy Stranahan on the birth of their brand new baby boy, Shane, who came into the world on August 11, 1992. Look for Lee's new column 'LAST WORD' on the last page of this issue.





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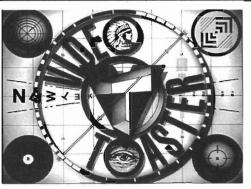
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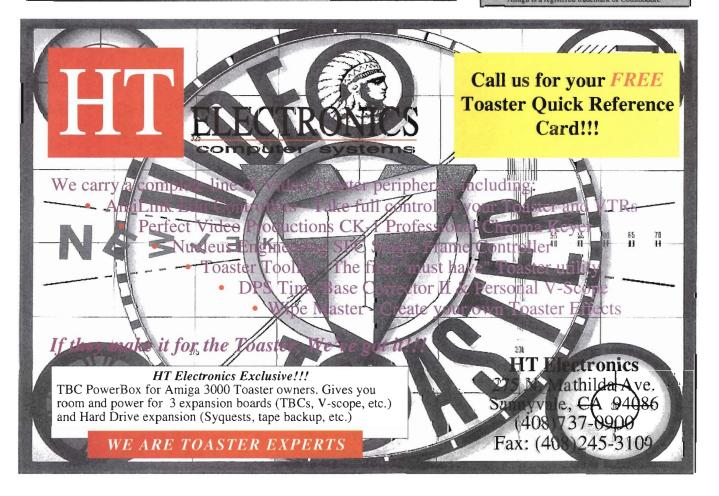
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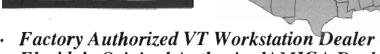
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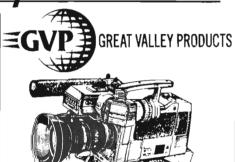


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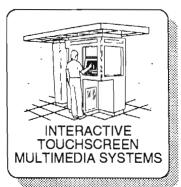
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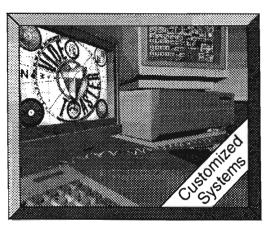
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Advertiser Index

These Companies have advertised their product or service in this issue. To advertise in Video Toaster User call 408-252-0508 for more information.

Acousticorp, Inc.	61	Digital Design Solutions	88	NOVA Systems	39
Advanced Image	94	Digital Graphics Library, Inc.	45	Nucleus Electronics	64
Adwar Video	87	Digital Processing Systems	C3	Omni International	89
Alpha Video	15	DKB Software	C2	Overscan Images	95
Amigo Business Computers	88	EasyScript!	93	Oxxi, Inc.	57
Ami-Ware Multimedia	31,73	Electro-Tech Electronics	83	ParkerVision	61
Ampex Systems	56	ESE	79	RAVE Video	35
Anti-Gravity Products	38,80	Flimelips, Inc.	81	RGB Computer Video	01
Anti-Gravity Workshop	76	Frost Byte Computer Systems	93	Ring Software	85
Armato's Pro Video	55,86	Graphic Impressions	93	Safe Harbor Computers	89
ASDG	25	Heifner Communications	37	Secret Communications	94
AVID Publications	76	HT Electronics	83	Slipped Disk	86
The Biographix Corporation	94	Hotronic, Inc.	71	Smith Audio Visual, Inc.	79
Blackrock Computer Plus	93	I-DEN	03	Stranahan Seminars	49,51
Briwall Video	29	Industrial Color Labs	95	Studio Spectrum	82
Byrd's Eye Software	58	Integrated Graphic Media	13	Spectrum	94
Byte Factory	69	JEK Graphics	62	Sundance Technology Group	59
Cardinal Video Products	65	Kara Computer Graphics	23	SunRize Industries	19
CCI Electronics, Inc.	52	Kingsway Productions	94	Sweet Pea Productions	79
Century Computer	55	KludgeCode Software	63	Toaster Crustaceans	33
Circuits & Software	94	Knowledge Media	78	Troy Soft	94
Cinema Products .	53	Mach Universe	21	T.S. Computers	82
Classic Video Production	93	Media Services Management	78	T.U.G.	81
Computer Showcase	83	MicroSearch, Inc.	32	Unili Graphics	09
Computer Systems Associates	50	Micro Ed Enterprises	55	U.S. Computer Corporation	84
Computer Video Associates	84	MicroTech Solutions	85	Videographix	43
CTL Electronics, Inc.	87	Motion-Media Design Group	94	Video InfoCom	67
Custom Supply, Inc.	82	The Music Bakery	93	Video Media	24
Dark Horse Productions	68	New Horizons	05	Visual Entropics	56
Digital Broadcast Video	78	A New Light Video	94	VIZ Technology	93
Digital Creations	07	NewTek	C4	Walt Davis Enterprises	17

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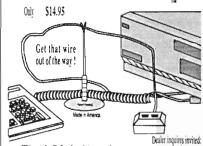
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LAST WORD (continued from page 96)

learn the aesthetic of any given medium, particularly one as complex as video." To which I say, "Oh yeah, college boy?"

I just can't buy into the "ignorance of the aesthetic milieu" argument, particularly when the medium under discussion features such classic works as Beach MTV, American Gladiators, and Hee-Haw. And at least those shows have decent looking graphics and video quality, content aside. If you've ever watched television, you should know a little about what looks good. No, I think the culprit is simple human laziness.

It's more work to make a good looking CG page then it is to make a bad looking one. It takes effort, and some people don't want to make an effort. And right now, they can still get hired and make a living, so you can see their slop on your TV screen from time to time.

That's going to change, and soon, because of people like you. By reading up,

by honing your chops, and by doing better work, you are helping to put the Toaster Abusers out of work. When everyone has access to the same basic equipment, ideas and sweat will eventually win out.

NewTek is doing their part as well, working on ways to make the Toaster easier to use. I've heard whispers of something in the works, code named "Dumb Guy Toaster." Dumb Guy isn't meant as an insult. The opposite of Dumb Guy is Rocket Scientist, A Rocket Scientist likes to fiddle with knobs, learn complex techniques, and read lots of manuals. The Dumb Guy wants quick results that make money and maybe buys a comfortable pair of shoes. I'm a Dumb Guy and proud of it.

The whole idea behind Dumb Guy

Toaster seems to be to make the Toaster as easy to use as...well, a toaster. With Dumb Guy, you could turn out great looking graphics, flying logos, and videos quicker and easier than ever before. When will we be able to buy this? Hey, don't ask me -I'm a Dumb Guy. What can be done with Toaster Abusers in the meantime? I've got a couple of suggestions that I'm willing to pass along to the powers that be. Anyone who wants to create these products on their own are free to do so. Just spell my name right on the royalty check.

First, there's something I call

Effects Maimer ®. This would automatically count the number of digital effects you use in any given time period. Go over the limit, and your effects buttons are all replaced by the Take effect, thus forcing you to do cuts-only editing. (An additional source of revenue could EffectsLazarus®. which would restore the effects. See? Al-

If the tape isn't tasteful the Toaster will morph into a job application for a local McDonald's restaurant

ways thinking.)

Next is the VideoAnnihilator®. This would analyze an edited video tape for tasteful use of the Video Toaster. If the tape isn't tasteful, the user will be asked to re-edit the tape. Should they not do this, the Toaster will morph into a job application for a local McDonalds restaurant. I still need to work out some technical details on this one.

Until my suggestions are implemented - Toaster abusers, watch out. I'll be keeping my eye on you. So be careful...one more bright orange CG page, one more Chroma-FX'd Bar Mitzvah, one hundred more digital effects in a 30 second car commercial...

BLAMMO!





Last Word

By Lee Stranahan



emember when Elvis picked up a .45 and blasted his TV set? I've been watching a lot of video lately, and I've got to tell you...I'm with the King on this one.

So what is it that makes me want to put a slug in my Sony? No it's not one of the fourteen shows featuring a smarmy host, a laugh track, and 'lunny' home video footage of kids hitting their parents in places that will assure no more more children in that family (although that would certainly do it...) It's Toaster Abuse.

Websters doesn't have a definition of Toaster Abuse yet, but my personal definition goes a little something like this -Toaster Abuse: The use of NewTek's Video Toaster to commit visual crimes upon humanity; usually involving (but not restricted to) overuse of digital effects, bizarre color and/or font choices in the Character Generator or random outbursts of Chroma FX. It's enough to make me want to put a bumper sticker on my car: Toasters don't kill video, people do.

Unfortunately, Toaster Abuse can kill it can kill Toaster sales, and it can kill the business of Toaster users. NewTek knows this, as anyone who's seen Penn & Teller's Guide to Toaster Etiquette will tell you. Sometimes it's hard to overcome the skepticism of clients who have seen lousy looking video and blame the box, not the user. You and I both know what the Toaster is capable of, but there's been a long history of resistance to the revolution. Badly produced Toaster tapes don't help.

What's the root cause of Toaster Abuse? Some would analyze the situation thusly: "In the early days of desktop publishing, you'd see documents with dozens of fonts and all sorts of design errors. The desktop video market is going through a similar infancy stage. It takes time for people to



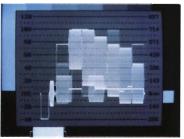
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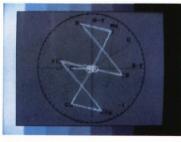
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