MASTERING THE ART OF LIVE PRESENTATIONS, PAGE 44

VIDEO TOASTER USER

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

MAY 1995

Splish Splash!

An Overview of Video Paint Packages

NewTek Goes Big at NAB
Page 8

Sin or Salvation?

Imitating the Popular Devil/Angel Effect

Producing Network-Style Graphics

an Avid Media Group, Inc. magazine

$3.95 US/ $5.00 CAN

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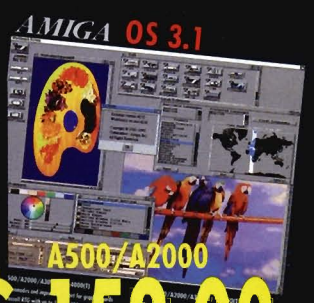
AMIGA OS 3.1

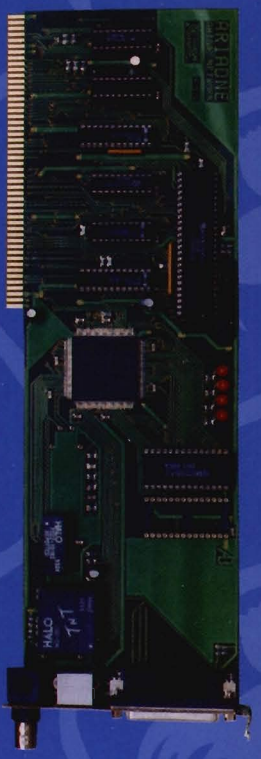


A500/A2000
$ 159.00
A1200/A3000/A4000
$ 179.00

Commodore

Ariadne

The Ethernet card



Don't get overwhelmed with the complexity of setting up a network, use our Ariadne Ethernet card that is compatible with all Amigas that have an available Zorro Slot. This card is not only easy to network - it also equipped with 2 additional parallel ports offering multiple network solutions.

- 10Base-2 (Thin Ethernet, coax-cable) and 10Base-T (Twisted pair, western jacket)
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- SANA-II compatible driver for ethernet and parallel port
- Hook up to two additional Amigas to the parallel ports with Liana
- 32KByte cache to support CPU
- Includes Commodore's Envoy networking software
- English manual

$ 349.00

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The 32Bit paint-program

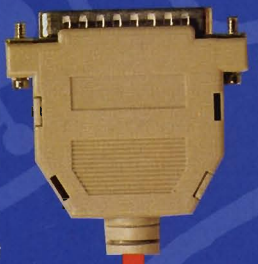
Play Picasso and use TV-Paint in its finest form. Runs on almost every graphic board, it offers the best compromise between price and power.

- Always works in 32Bits
- Intuitive user interface
- Resolutions up to 1600 x 1280 (and larger with virtual screens)
- Alpha-Channel for effects
- Direct support for digitizers such as VLab
- Read and write many picture formats such as IFF and JPEG
- English manual
- Suports pressure sensitive drawing tablets

$ 299.00

Liana

The Low-cost network



Are you in need of a fast and easy connection between two Amiga's? Liana, the low-cost network solution, is exactly what you want! Just plug it in, install the software, and it runs! Nothing could be easier than that. Liana is the network solution for those with a small budget and big needs. You can even share your hard drives and printers.

- For every (!) Amiga from WB 2.0 on with a free parallel port (A1000 needs a gender changer)
- Includes cable
- Includes Commodore's Envoy networking software
- English manual
- automatically reconnects after (re-)booting without new startup
- Every machine usable as server or client

$ 99.00

MainActor Professional

The Animation-player

Open your mind and dreams to the world of great animations, what Picasso users have been doing for a long time with the demo and full versions,you can do, too. MainActor Professional offers a high degree of functionality including multi-platform support (i.e. .AVI and .FLI animation file formats

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- Supports several graphic boards with special loader modules
- Uses 24Bit files
- Play animations directly from RAM or from hard drive
- Convert animations and picture formats
- Playable within a window on WB
- Complete ARexx-support
- Supports 14 different animation file formats
- Supports Video-For-Windows format
- Special, fast animation format for Picasso II

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The Fax-software

Make your phone line glow, TrapFax sends FAXes for you around the world - from your computer. System compliant software, which integrates smoothly.
Will send any file sent to the printer as a FAX through your modem.

- 2.0 and 3.0 compliant, modular user interface
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- Scheduler, mass-sends, and many more features
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- Can be used in networks: only one FAX-modem required for multiple machines
- Runs with any Class-2 FAX modem
- Previewer shows outgoing FAX on screen

$ 89.00

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Picasso II RTG

The Graphic-card

Picasso II RTG, the graphics board all others are measured against:

- Graphics board for all Amiga's with Zorro-Bus - Workbench driver to retarget all programs and WB to the Picasso
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- Draggable screens
- Available with 1MB or 2MB, upgra dable from 1MB to 2MB at anytime
- 2 years warrenty

2 MB **$ 599.00**

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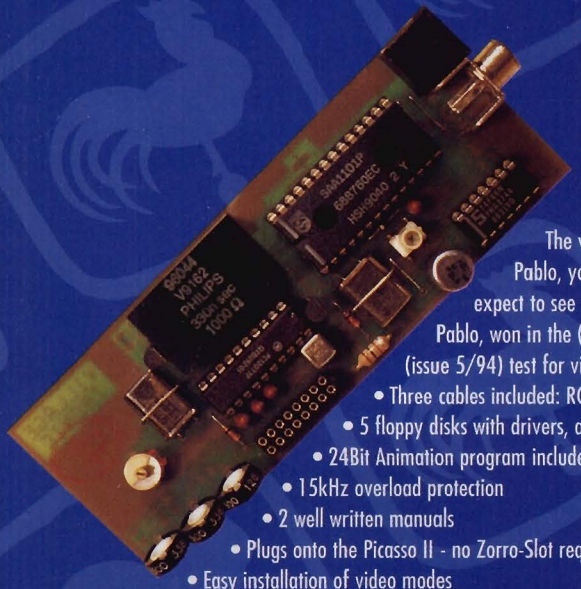

Pablo

NTSC-video output for Picasso

The video module, Pablo, expands your Picasso II with two new video outputs. Using the Pablo, you can view your Picasso output on any TV or VCR. All with quality that you would only expect to see from broadcast video encoders. That is why the Picasso II video encoder module, Pablo, won in the (German) magazine 'Amiga Magazin' (issue 5/94) test for video encoders.

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- 5 floppy disks with drivers, animation demos and more
- 24Bit Animation program included
- 15kHz overload protection
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- Plugs onto the Picasso II - no Zorro-Slot required
- Easy installation of video modes

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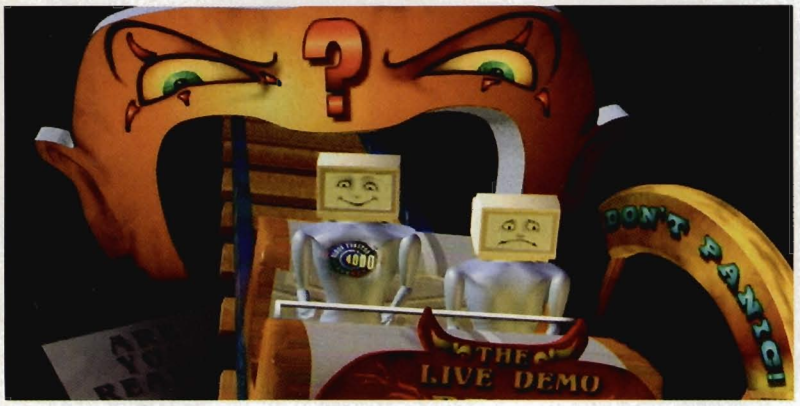
YOUR GUIDE TO VIDEO FX/3D ANIMATION/TV GRAPHICS

VIDEO TOASTER USER

MAY 1995 VOLUME 5 NUMBER 5



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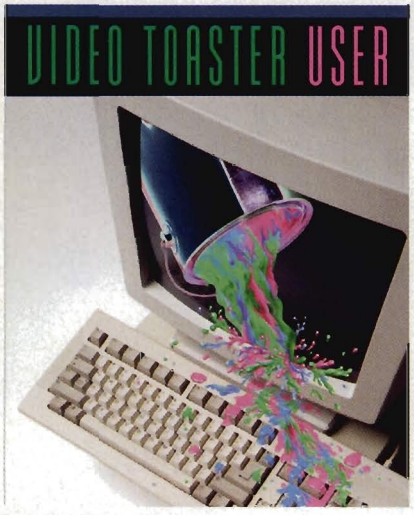

Cover Design by Helga Nahapetian Taylor
Cover photo by Curtis Fukuda

VIDEO TOASTER USER Vol. 5, No. 5 (ISSN 1075-8704) is published monthly by Avid Media Group, Inc., 273 N. Mathilda Ave., Sunnyvale, CA 94086-4830. A one-year subscription (12 issues) in the U.S. and its possessions is $36; Canada/Mexico, $48 (U.S.); Foreign, $76 (U.S.). Allow 4 to 6 weeks for first issue to arrive. Second-class postage rates paid at Sunnyvale, CA, and additional mailing offices.
POSTMASTER: Send address changes to *VIDEO TOASTER USER*, 273 N. Mathilda Ave., Sunnyvale, CA 94086-4830.
For quality reprints in quantities of 100 or more, contact REPRINT SERVICES/VIDEO TOASTER USER, 315 5th Avenue N.W., St. Paul, MN 55112, (612) 582-3800, Fax (612) 633-1862.

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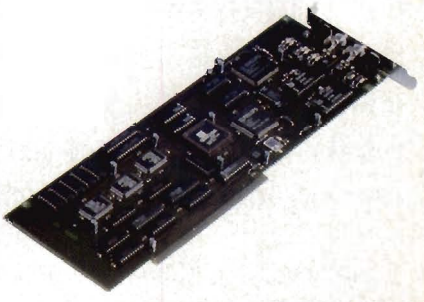

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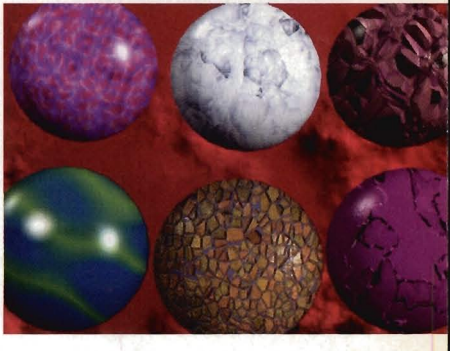

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You, too, can create graphics like the major networks. Investigate various LightWave and CG tricks used to make mood video.

Is this a typical Amiga software advertisement?

The answer, of course, is NO...this ad is unusual because we're not just selling a product—we're also selling a concept. In a nutshell, the concept is this: our software tools are created by film & video professionals for film & video professionals. Not surprisingly, the result is truly professional-quality tools—they do what they do very well, with clean, quality interfaces and not a lot of fanfare.

If you use both Macintosh and Amiga computers, you've probably heard of MaxDOS. It's a software-only system which enables you to use Mac high-density floppy disks and external Mac SCSI drives (hard, optical, floptical, Bernoulli, SyQuest and CD-ROM) with your Amiga, as a virtually invisible way of sharing data between the two platforms. It's very straightforward, very quick, very powerful and very reasonably priced. Here's a few guesses as to why our sole competitor is so concerned about MaxDOS 2.5 right now:

Read/write high-density Mac floppies	YES
Read/write Mac format SCSI drives	YES
Auto SCSI configuration	YES
Compatible with all Amiga software	YES
Display of Mac icons on Workbench	YES
Transparent translation of text files	YES
Transparent handling of MacBinary	YES
Viewing and setting of TYPE and CREATOR	YES
Settable reactions to TYPE and CREATOR	YES
Will extract resources from Mac files	YES
Allows hex viewing of any file or resource	YES
Workbench 3.1-compliant interface	YES
Film & video-savvy technical support	YES
Ads attacking old version of competitor's software	NO

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"The Macintosh/Amiga file transfer solution... an indispensable tool..." *Video Toaster User, Nov '94*

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MaxDOS 2.5 requires Workbench 2.04 and SCSI interface for use with Mac format SCSI drives.
mfm.device (standard in Workbench 2.1 and above) and high-density floppy drive are required for floppy use.

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VIDEO TOASTER USER

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

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QUESTIONS AND TIPS Direct your Toaster-specific questions or tips to *VTU* Questions, John Gross; *VTU* Tips, Brent Malnack.
NEW PRODUCTS & UPDATES Direct your press releases and new product literature to New Products Editor.
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REPRINTS Contact Reprint Services, *Video Toaster User*, 315 Fifth Avenue NW, St. Paul, MN 55112; 612-582-3800; fax 612-633-1862.

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LETTERS TO THE EDITOR

Dear *VTU*,

Just a short note. First off, thanks a lot for putting my monthly issue in the mail earlier, as I'm located in Spain and appreciate getting issues at the same time, if not earlier, than stateside Toaster users. Secondly, I love the return to just Toaster stuff, aside from Mojo's side trips to the IBM world. Actually, I agree with him. As a PC person, I agree the PC has a long way to go before it catches up with the Amiga. Finally, I'd like to see some more comments about rendering to VCR without a PAR, a SFC or other means. Amiga users here haven't got half the memory or equipment that most U.S. Amigans have, yet with Imagine and other programs, they're outputting incredible animations. I recently saw a PC versus Amiga animation that just blew my socks off. Anyway, the only other change that would make your magazine better is to make it bigger! Thanks for the great information and tutorials.

Tony Lee
Rota, Spain

Dear *VTU*,

I just got the March issue of your magazine and I must register my extreme disappointment and concern over your article on Cybernetica.

First and foremost, the number listed at the end of the article for Cybernetica does not work. The phones have been disconnected since November 1994, following a month or so of "phone problems" that made it all but impossible to contact Cybernetica. This is the level of customer service that Cybernetica had before this whole mess started, and the one Mel Landin, its owner, has "re-committed to re-establishing." In that one regard, I must say he has succeeded.

Second, Mel Landin is quoted as saying that he's "committed to paying back everyone who's paid a dime to Cybernetica for Newton's Law," and that "a significant amount have already gotten their money back." I am not one of them. Cybernetica has made no attempt to contact me since November, when I demanded (as is my right under CFR 435) my money be returned. It was their failure to refund my money, after promising they would do so in a timely manner, that led me to contact the Santa Barbara District Attorney's office which later started the investigation they are now undergoing.

I would have preferred your reporter talk to someone other than Mel Landin (and his competitors) for the story. But I guess just getting Mr. Landin to talk is amazing in itself.

Ben Gibson
Sunnyvale, CA

Dear *VTU*,

This is in response to Mojo's "Last Word" (Feb. '95) column.

Bravo! Mojo described many people's situations perfectly. Too often there are those who would rather complain about their situation than do something about it.

Working at the university level, I see people (many of them students) who are not passionate about their work and thus take an apathetic approach to everything in their lives. If anything, Mojo's article should serve as a motivating tool to those who need to take that risk. I found this article to be a reminder not to lose sight of my dreams and the goals that I have set for myself. People should try and make every day an adventure, try to do something different and exciting, and most of all, do the things they really want to do.

Again, my thanks to Mojo for reminding me (and others) not to be satisfied with mediocrity. Words expressed are mine and mine alone.

Stephen Schleicher
Hays, KS

Dear *VTU*,

I especially enjoyed Mojo's February '95 submission. He seems to speak through an odd combination of cynicism, realism, inspiration and-grandeur.

It makes for very textured reading.

Cheers, and keep it up!
Ken Mayfield
Dartmouth, Nova Scotia

Dear *VTU*,

I just read the February and March issues of *VTU*, and there certainly seemed to be a gloomy atmoshere to them! Much of the material was of the "What can we do instead of using the Amiga?" sort and there was almost no new information on the future of the Amiga technology itself. One issue had the Florida group winning the bancruptcy battle, the next the UK team! Is there any place to turn on the net to find current news on this topic?

By the way, I love your magazine *(VTU)*. I've gotten many great ideas and tips from i, and I even appreciated the "generic" video stories you were doing last summer. The Windham Community Cable Group, a public access cable station, uses the Toaster 4000 as our primary live switcher, sending its output directly to the routing switcher and modulator. So please try to remember that not all of your readers are using the box on a for-profit basis.

Keep up the good work.
Mark H. Bickford
YEAK86@Prodigy.com

Dear *VTU*,

In the article "More Attractive Bevels" (March 1995), Jim Woodruff describes a method for creating sharp edges on the smoothed beveled polygons from the side polygons. At the end of the article, Mr. Woodruff states that this method increases the object's point count. What he did not mention is that you can avoid such memory expenditures by adjusting the beveled surface's Maximum Smoothing angle in the Surface menu. This procedure eliminates the need for the aforementioned object editing, in most cases, where a sharp distiction between smoothed surfaces is required. A value of 40.0 degrees usually works very nicely.

Paul Davies
Bethesda, MD

Corrections

The "Stross Management" feature (February 1995) incorrectly identified Marmalade as the company producing *Movie Magic*. Actually, GRB Entertainment owns and produces the Discovery Channel series; Marmalade produced 10 short graphic sequences for the show's first season. *VTU* regrets this error.

Also, in the review of "LightWave Organic Modeling" (February 1995), the price of the book was incorrectly printed as $14.95. The actual price is $19.95. Motion Blur Publishing's current address is 1609 Addison #6, Berkeley, CA 94703.

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Raptor 3

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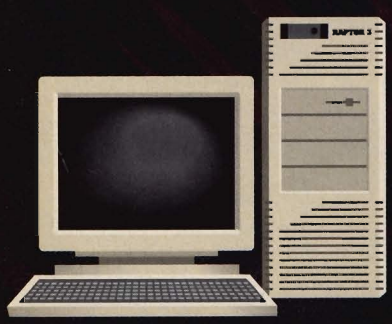

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NewTek Events at NAB

Flyer Hard Drive Specs and VT Expo '95

by Jim Plant

VTU subscribers should be reading this just a few days before the start of the video production industry's biggest annual event, the National Association of Broadcasters (NAB) show, held in Las Vegas. This year's NAB officially begins on Sunday, April 9, with the main exhibits open April 10-13. Historically, NewTek, like most other video companies, uses the NAB forum to make its biggest announcements and showcase its best technology. In 1990, the company presented the pre-release Video Toaster; in 1991, it showed the first release of the Toaster and hints of the Toaster System 2.0 upgrade; in 1992, Toaster System 2.0 was unveiled. The Toaster 4000 was displayed in 1993 and, in 1994, onlookers got a first glimpse of the Video Toaster Flyer non-linear editing system.

Based on recent conversations with NewTek President Tim Jenison, it appears that the gang from Topeka will make their biggest splash ever at the 1995 NAB. For the first time in company history, NewTek will be demonstrating more than one significant product. First of all, the company will show the 4.0 release version of the Video Toaster Flyer, unveiled at last year's NAB. The new Toaster System 4.0—what many consider to be the biggest and most significant Toaster System upgrade ever—will also be revealed. Finally, and perhaps most significantly, NewTek will be presenting release versions of LightWave 3D for Intel, DEC Alpha and MIPS processors. There have even been some very interesting rumblings about a fourth product to be announced at NAB. It is clear that NewTek has been extremely busy in the last year, and the fruits of the company's labor will be evident in April.

In addition to the NewTek booth, there are a number of other important places and events for Toaster and LightWave enthusiasts at NAB. Of course, there is the *Video Toaster User*-sponsored pavilion, a huge 50-foot by 50-foot booth where dozens of third-party Toaster and LightWave vendors will be showcasing their products and services. There will also be the NAB-sponsored Toaster and LightWave training seminars. Additionally, NewTek will sponsor a number of pre-exhibit events taking place on Sunday, April 9, at Caesar's Palace. This is the time and place where NewTek meets with its extensive developer, dealer and end-user base, as well as the press, to show new technology and discuss its plans for the coming year. These events are tentatively scheduled as follows (contact NewTek customer support at 1-800-847-6111 for more information):

1:00 p.m.—NewTek third-party developers' meeting
2:00 p.m.—press conference
3:30 p.m.—NewTek dealers' meeting
5:00 p.m.—NewTek end-users' meeting
(open to the public)

Flyer Hard Drive Info

With thousands of Video Toaster Flyers already in the hands of end-users and thousands more coming in the near future, the issue of big, fast hard drives has percolated to the top of the priority list. The VT Flyer's VTASC compression format delivers beautiful video quality, but it requires specific levels of performance from its hard drives. At press time, there are a small handful of drives that meet the criteria needed for optimal VT Flyer performance, and NewTek is working feverishly to expand this list. Recently, I received a lengthy internal NewTek document describing the various factors that impact on drive functionality with the VT Flyer non-linear editing system. We will be publishing the complete document in next issue's focus on mass storage, but in the meantime, here's a brief rundown on some of the critical hard drive performance issues relating to use with the Video Toaster Flyer.

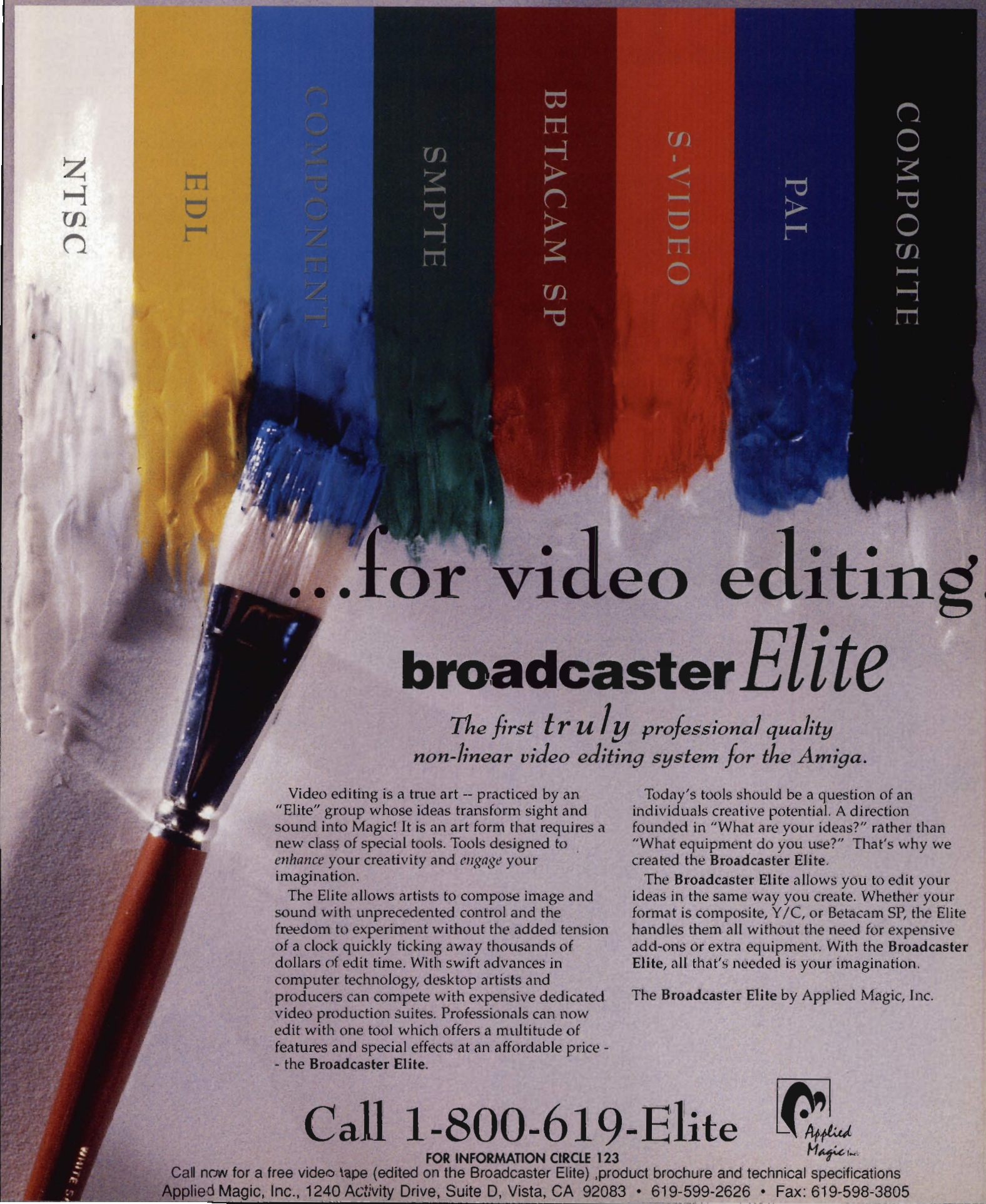
1. Drive Speed: The drive should be able to maintain a speed of no less than 3.75MB per second. This speed must be sustainable across the entire surface of the drive. The faster the drive, the better it is able to fill its own buffers as well as the Flyer's. The result: a smaller chance of video stuttering due to slow data reading.
2. Drive Cache Parameters: Setting the drive caches to their optimal settings squeezes the last drops of performance out of most drives. The Write and Read caches should be enabled. The Read and Write Retention Priorities should be set to 1 whenever possible. Since the best drive cache parameters can vary from drive to drive, a certain amount of trial and error may be necessary to find the optimal combination. NewTek has provided a software tool to VT Flyer dealers to assist in this process.
3. Thermal Calibration: This drive process, often called T-Cal, allows the hard drive heads to reorient themselves whenever the drive temperature cause the heads to become misaligned. During the T-Cal process, no data is being transferred, which, depending on the state of the Flyer's buffers and the length of the T-Cal, can cause video stuttering. This function of the drive is one the end-user has little control over, so the drive's T-Cal process either works with the Flyer or it doesn't.

Remember, this is just a brief synopsis of what can be fairly technical issues. Look for next month's more thorough discussion of this subject (special thanks to NewTek's Todd Hayes).

Video Toaster Expo '95

If you missed last year's very successful Video Toaster Expo, you can make up for it by attending Video Toaster Expo '95. It will be held at the same location, the Universal City Hilton & Towers in North Hollywood, Calif., Nov. 1-4. Stay tuned to future issues of *VTU* for more information.

The True Artisan's Tool



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TOASTER TIMES

Toast and HAM

Joan Burke

Many Toaster users incorporate the NewTek technology in their video production and animation businesses. Some users, however, utilize the Toaster in their hobbies—strictly for fun. One such person is amateur radio operator (HAM) Francis Miele of Hartford, Conn.

Miele says that amateur radio is a hobby with many facets, one of which is amateur television.

"[Amateur television] is like professional television without commercials. Pictures are sent quickly via low-powered transmitters and amateur radio bands," Miele said, "You have to be licensed to do it."

He acquired his license in 1988 and bought his Toaster when they were first released in 1990.

The background in this image was framegrabbed from the American Music Awards.

Call letters are going through the Teroid object that came with the Toaster.

"First I was using the Amiga for my flying logos or titling with a Genlock system," Miele explained, "When the Toaster came out I said, 'Oh, here's a better way, and I can have multiple outputs.'"

Miele now has an Amiga 2000 with 14MB of memory, a Toaster 4000 with 3.5 software, a SyQuest removable, a 240MB hard drive, a Panasonic camcorder, Sony 8mm camcorder and two TBCs.

The amateur radio enthusiast uses the Toaster for scrolling titles, special effects for fade-ins and animated scenes. "I've animated my call letters [N1GAU] so they're walking, to break the monotony of a still," Miele said, "I find no other tool that can do that without costing a great deal.

Public Service

According to FCC regulations, ham operators cannot use amateur television for monetary gain. Miele uses his hobby for public service. For instance, when the space shuttle was in air, a cable feed of the NASA select channel was fed to a local repeater system and received by Miele who showed it in schools to promote and get students interested in amateur TV.

Another public service event that Miele was involved in was the Southington Apple Harvest Festival Parade. A camera was staged along the parade route and an amateur signal was sent back to the reviewing stand. That allowed the announcer to know which float or group was next for viewing. Approximately six ham operators were involved in the project.

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Prepare for Some Digital Destruction

Corey Cohen

It sounds like a fantasy of the power-hungry or the innocently imaginative: Super-strength. An armored body. Weapons of incredible power. And the knowledge that you alone can rescue the world from its deadliest enemies.

That's just a taste of the electronic essence of *Digital Man*, the main character in an upcoming film of the same title. Set in the near future, *Digital Man* tells the story of a cybernetic super-soldier dispatched by the military to stop a group of planet-threatening terrorists.

For Ron Schmidt, the movie's co-writer and post-production supervisor, showing the audience the viewpoint of the rampaging creature was the catalyst for many of the impressive effects created with LightWave and a battalion of Amigas.

Mechanizing Mattias

Mach Universe, an Orange County, Calif.-based graphics production house specializing in 3D animation, started work on the six-month project last

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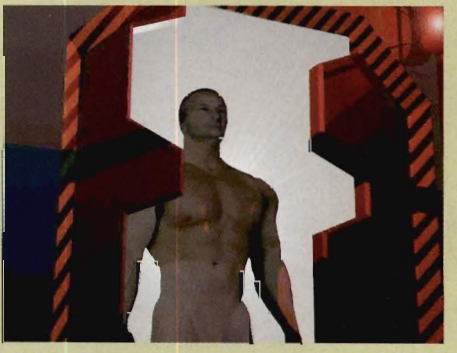


This LightWave-generated scene, one of many in the first few minutes of *Digital Man*, reveals the newly constructed android. A lens flare placed behind him provided dramatic effect while significantly reducing rendering time.

New Trek

Up, up, and awaaaaay down was the theme as a NASA plane conducted zero-gravity experiments last August—NewTek Flyer and all.

Having been contacted earlier by a National Aeronautics and Space Administration scientist/Toaster user, NewTek President Tim Jenison and LightWave specialist Jason Linhart served as technical advisers for studies to determine the effects of weightlessness on the convection patterns of micro-organisms.

The Flyer's non-linear capabilities allowed high-quality video images to be stored directly to disk, eliminating tape and the time normally spent digitizing

Jenison, Linhart and the Flyer sail the skyways.

the results. Additional equipment included an Amiga 2000 with 8MB of RAM and a microscope.

Achieving zero-G conditions involves flying a special NASA plane in a sine wave-like pattern, with alternating durations of zero-G and two-G (twice the Earth's normal gravity). Such conditions take a little getting used to: "It went from me being violently sick the first day, to my pushing off the walls like Superman [during subsequent sessions]," said Linhart.

All in all, the four-day ride got a smashing review. "It was an incredible experience," said Linhart.

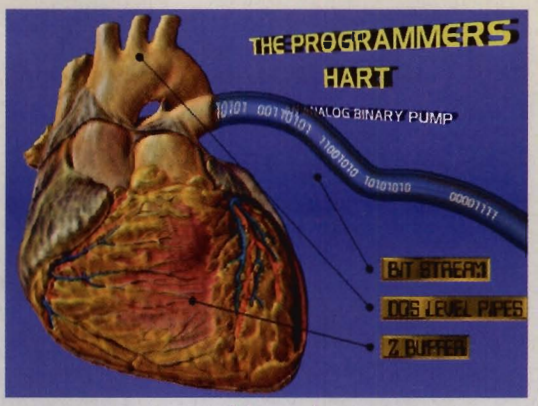
—Corey Cohen

The Way I See It

Straight From the Heart

Mike Danger

It was a day just like any other, except for one thing: I was about to help a friend of mine install the new Flyer card in his awaiting Amiga computer. As we completed the easily accomplished task, we decided to celebrate with something cool from our local handymart. Upon my amigo leaving me alone with visions of framegrabs and LightWave dancing in my head, the hard drive became silent, and I decided that the machine was ready to go. A minute or so later I heard bubbling noises reminding me of either a Cheech and Chong movie or one of the large aquariums from Sea World. Was this a new fishy wipe added to the effects grid, or was I just hallucinating from the thrill of this event? Numerous phone calls resulted in no information on the newly discovered effect. Just then our refreshments arrived. As I looked at James with puzzlement, he proclaimed, "Hey, I see you got the screen saver to work." So as my face turned as red as a chroma effect, I was reminded of a moral for this story: In the words of Stevie Wonder, "Things are not always as they seem." With that in mind, let me welcome you to my 15 minutes of fame, gossip and rumors centered around the Video Toaster.



Jim Prentice's Framestore of the Month

Commodore Info

From the "You faxed for it, you got it" department comes this bit of paper waste. Recently, I received a four-page fax from an unnamed party from the UK. This paper trail, which had certain parties conveniently scratching out their names on the document, said the following: "The situation for buyout of Commodore should be resolved in three to four weeks. The sticking point now is that Commodore is very convoluted. It seems that Commodore and the Amiga name and logo are all owned by separate branches of the company. The UK concern, formerly known as Commodore UK, wants to call their new company Amiga International, but are running into a stumbling block in getting rights to the name Amiga by the Germans. It seems that the inspection of the warehouse yielded a large amount of repaired and half-completed machines. If everything goes OK, firm orders of machines are ordered for March-April delivery." Hmmm, this Commodore situation has had more twists and turns than the O.J. Simpson trial. Stay tuned for more updates, because there will undoubtedly be more.

The Flyer's Premiere

With the Flyer out barely a few months, the handy-dandy non-linear editing device has already made its debut on your TV screen. Sources have informed me that an infomercial centered around the sport of golf scored a hole-in-one thanks to the effectiveness of this card.

continued on page 13

FAST Food

Hungry for fast rendering?

Byte for byte, nothing satisfies your appetite like the Aspen Systems ALPINE workstation. The main course includes a 275MHz ALPHA processor with 128-bit data path to both 2MB secondary cache and DRAM. Garnished with three PCI slots for high-speed networking and video, a FAST SCSI-2 interface, plus a variety of other gourmet features, the ALPINE satisfies your craving for extreme performance like nothing else on the menu. With floating-point performance up to 20 times that of a 40MHz 68040, the ALPINE cleans a full plate of even the most complex jobs in record time.

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The Way I See It continued from page 11

Calls and letters have been piling up on my desk concerning the use of hard drives for the Flyer and video applications. (Though I'm not a Toaster tech in real life, I pretend to be one in this column.) People have told me that the Seagate Barracuda and Elite work. I must caution that, due to the firm ware each drive may differ and some may not work. Micropolis also has compatible drives, but your best bet is to wait for confirmation from NewTek on what will work.

Make It a Date

It's that time of year when a guy's mind turns to romance. Well, there are other things in the air, and we're not talking about El Niño. In this industry, we're talking about the National Association of Broadcasters convention. This show usually unveils the new products that companies dream up the year before. To think that a year ago the Flyer made its debut in Las Vegas. First the Toaster, then the Flyer. You can bet that whatever this "still cool" company comes up with will take second to none. Meanwhile, at this moment, the first annual non-linear expo is taking place in Castleberry, Fla., located outside of Mickey and Minnie's summer home in Orlando. This event, put on by Mack McDonald (who, by the way, doesn't own a farm and go "E-I-E-I-O"), puts the best non-linear editing systems under one roof. Adding to the excitement is a competition between the NewTek Flyer, the Cube and Advent Editor. The participants will each be given raw footage and, in a given amount of time, will be asked to construct a commercial. They will be then judged. Both myself and Charles Hill of Intelligent Machines are placing odds that the Flyer takes top honors. Results of this barn-burner in next month's column.

It seems that at one time or another there is a question that for some reason you can't find an answer to. Well, help is on the way. Dave at Area 52, located in East Setauket, NY, has spent months putting together infomanuals concerning everything from Amiga applications to fine-tuning and using the Warp Engine. These disk-only tutorials are a must for anyone who wants to stay ahead of the game. This company has to have some of the best deals on hard drives I have ever come across. Need more information, call Dave at (516) 476-1615. By the way, rumor has it that Dave named his company after that infamous U.S. government-owned alien parking garage located somewhere in the lonely Arizona desert.

Powerhouse of an Animator

Question: What do Godzilla, big earthquakes and Jim Prentice of Nippon General have in common? Answer: all three are found in Japan. Jim, a California transplant, now runs his company out of Goya, which is located about 300 miles from disaster-stricken Kobe. This animator has the edge on the competition due to the mountain of equipment stacked to the roof in his one-room editing suite. The Amiga 4000, Toaster and Flyer, which are housed in a Micronics tower, is his main workhorse. His use of LightWave is very much in demand by the advertising and medical communities. Jim recently introduced his own line of LightWave objects on CD-ROM. These objects are of the highest quality and are a must-have for the LightWave user. Presented for your personal inspection, this month's framegrab could quite possibly be under consideration to become the U.S. Surgeon General's Office mascot. Besides being a dedicated Toaster user, Jim has a heart and phone bill as big as the state of Texas. Thanks for the times you coaxed me through a project on your quarter.

Once again I've used my allotted space. I hope you have enjoyed reading this as much as I have enjoyed writing. Please send all framegrabs, information or comments directly to me at Mike Danger, 1037 Candlewood Circle, Pensacola, FL 32514, (904) 469-1001.

So till next time, in the words of Johnnie Cochran, you are sequestered and not to discuss the contents of this column with anyone.

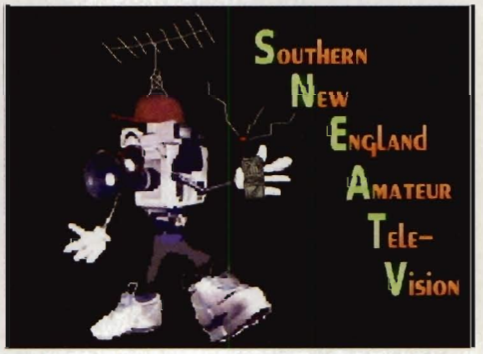
VTJ

Toast and HAM continued from page 10

Weekly Net

Every week Miele holds a net—a scheduled time when HAM operators send audio and video to one another. The net is called Southern New England Amateur Television (SNEATV) and meets every Monday night at 7:30. Approximately 10 or 20 people are actively participating on a good night.

"It's the most fun facet of amateur radio because you can see who you are talking to," Miele said, "You can send audio and video and the duplexing mode is done on 2-meter FM."



The framegrabbed camera character includes a radio and antenna that were added through ToasterPaint.

This frame used for the net has text scrolled over it with CG.

Miele begins the net by introducing himself with graphics that were created on the Toaster, usually comprised of backgrounds made in TPaint and CG. His call letters are animated with Bones. He also scrolls text over a logo using CG to show who the active participants are or to make announcements. He said that the best thing about the Toaster is its ease of use. "It's not difficult to learn the basics," he said.

Just for Fun

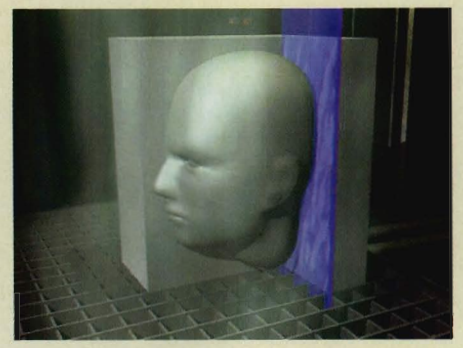
Amateur television is one more outlet in which the Video Toaster is applied. In this particular avenue, the Toaster is used just for fun!

VTJ

Prepare for Some Digital Destruction continued from page 10

May. David Hopkins, the company's owner, served as graphics supervisor for the film.

The first 2-1/2 minutes of *Digital Man*, depicting the construction/evolution of the secret weapon, are entirely computer-generated. Among the realistic effects is a Humanoid texture-mapped with the flesh of actor Mattias Hues and the illusion of a futuristic ROT (Rapid One-Way Transport) delivering Digital Man to a desert confrontation. LightWave, five Amigas and Hopkins' "super machine" (a progressive '68040 at 28MHz with 32MB of RAM, a PAR and Raptor Plus) handled these and many other of the feature's 275 special effects.



The super-soldier's head is laser-sculpted by a vast network of computers.

The ROT (Rapid One-Way Transport) containing Digital Man is ready for sub-orbital launch.

But don't expect a meaningless series of graphics. "Effects were primarily written in as editing continued to help sell the story, which we did through 'heads up' point-of-view displays of Digital Man and others," described Schmidt. "We found it important to tell the story through various characters' perspectives, especially Digital Man's....The more we revealed through his eyes, the better the film became."

Showing viewers the world through android orbs involved taking Hi8 footage and importing it into a PAR, then adding grids, static and other robotic images using the Toaster and LightWave. Animator David Wainstain spent approximately two months producing 80 of these visuals.

"We wanted to use computer animation on many levels, and try to put it in there, in the shot with everybody else," Schmidt explained. "In many cases, we did and we succeeded."

Looking back, Talaat Captan, *Digital Man*'s producer, calls the movie "an effect-o-rama film."

"It's mind-boggling to have the number of effects we did—my competition usually has 30 or 40," he said. "So much work went into this movie....Overall, people who saw it thought we did an incredible job. And *Space Marines* will be much, much better, because we don't have to do tests anymore." This fantasy will contain at least seven minutes of LightWave-illustrated space battles.

Intergalactic Agenda

While working with Green Communications' Captan, Schmidt and Wainstain on *Space Marines*, Hopkins will also be developing a 90-minute animated feature. This combination of science-fiction and virtual reality "will definitely be like nothing anyone's seen before from Toaster animation."

"I like my images to fool somebody," says Hopkins. "The majority of the time when I show people the demo reel for [*Digital Man*], the response I get is, 'Where'd you get the video for the film?' They assumed I just did the CG titles." The animator's ultimate goal is the expansion of "hyper-reality," where "things look truly real but are obviously computer-generated."

In the meantime, sci-fi and LightWave fans alike can enjoy the product of late nights and exciting ideas. Look for *Digital Man*'s theatrical or home video release this summer. VTU

News & Notes

Back to School

Santa Fe Workshops is offering a 1995 digital education program designed to develop participants' technical skills and humanize the world of digital imaging. Taught by topnotch professional imagers, the courses are held in association with Santa Fe Community College, and college credit is offered through the school's degree programs. Participants work at their own stations in labs open from 8 a.m. to 10 p.m. daily. This year's Digital Imaging Workshops, offered May through August, include Digital Imaging Overview, Fundamentals of Photoshop, Multimedia Presentations, Color Management on the Desktop, CD-ROM Imaging and more. Sixty photography workshops, filmmaking seminars for photographers and an introduction to video production are also available. For more information, write to Santa Fe Workshops, P.O. Box 9916, Santa Fe, NM 87504, or call (505) 983-1400.

© Andrew Rodney

An image by instructor Andrew Rodney.

Clear Your Schedule

The following is a partial list of upcoming conventions:

CES INTERACTIVE:
(Electronic Industries Association, 202-457-8700)
May 11-13 — Pennsylvania Convention Center, Philadelphia, Penn.

MULTIMEDIA '95:
(MULTIMEDIA '95, 800-615-1551)
June 1-3 — Metro Toronto Convention Centre, Toronto, Canada

SHOWBIZ EXPO WEST:
June 10-22 — Los Angeles Convention Center, Calif.
(Advanstar Expositions, 800-854-3112)

PC EXPO
June 20-22 — J.K. Javitz Convention Center, New York, N.Y.
(Blemheim Group, 800-829-3976)

ACM SIGGRAPH '95
Aug. 8-10 — Los Angeles Convention Center, Calif.
(Association for Computing Machinery, 800-342-6626)

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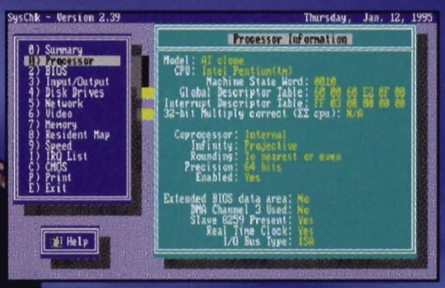

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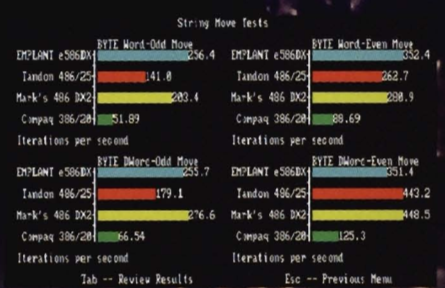

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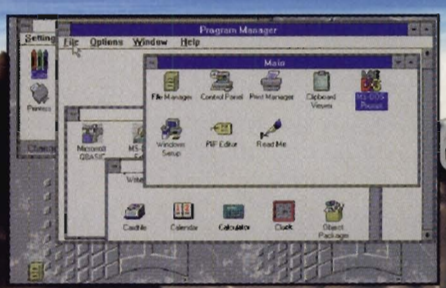

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Image Rendered with EMPLANT running KPT Bryce! ©1994 By Jim Drew

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ε586DX module - $99.95 (Requires base EMPLANT system.)

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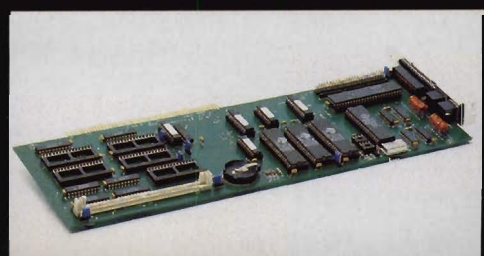

NEW PRODUCTS

Compiled by Corey Cohen

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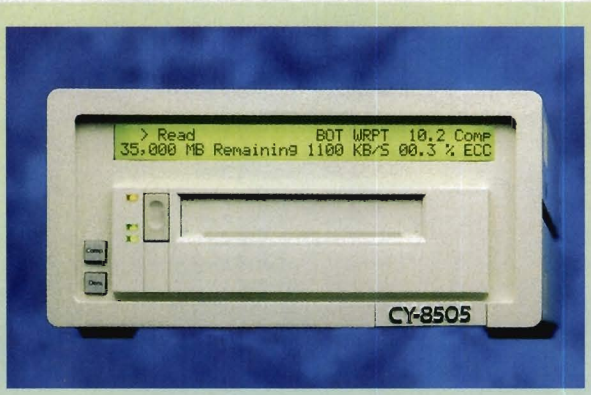

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Newport News, VA 23606
(804) 873-9000

Contemporary Cybernetics Group's *data storage subsystems* are designed to boost performance and productivity. The company's tape storage offerings begin with QIC tape streamers, available in 250MB, 525MB, 1GB and 2.2GB capacities. For higher capacity, CCG has 8mm tape subsystems in single and multidrive desktop or rack-mount configurations that can store between 2.5GB and 35GB on each tape. Eight-millimeter library solutions hold between 25GB and 3TB and may, depending on users' equipment, contain software allowing them to automate most backup/restore and tape management functions. There are a variety of options. Fast SCSI Data Compression can increase native tape capacity and throughput by up to five times. The Advanced SCSI Processor lets two or more drives work together in striping, mirroring, independent and cascade modes to maximize performance and save resources. Accelerated File Access lets users locate a file on an 8mm tape in an average of 85 seconds. And Data Encryption protects sensitive data.

FOR INFORMATION CIRCLE 1

Designed to hold the 302 or new 302WVA units and packaged with or without liquid crystal displays (LCDs), these cases feature over-the-shoulder straps for greater mobility out in the field. They are sold separately or with Hamlet units.

FOR INFORMATION CIRCLE 3

Open the Barn

Product: BarnStormer
Description: Windows NT graphics and animation workstation
Price: $9,995
Flight Technologies Inc.
100 S.E. Greystone Dr.
Lee's Summit, MO 64063
(816) 525-8359
Fax (816) 525-0528

Flight Technologies has announced the availability of the *BarnStormer*, a high-speed Windows NT graphics animation workstation. Backed by a 275MHz DEC Alpha CPU, the BarnStormer's processor delivers animation rendering performance superior to other RISC-based solutions, such as the MIPS and PowerPC processors. Initially intended to serve the rendering and animation needs of users of LightWave and ScreamerNet, the BarnStormer comes with an Ethernet card for easy interfacing with Amigas running LightWave 3D. Additionally, because the number of graphics, animation and morphing programs running under Windows NT continues to grow, the BarnStormer is ideal as a standalone or networked graphics workstation. It comes with a 2MB secondary cache, 32MB of RAM, a 1GB SCSI-II hard drive, dual-speed CD-ROM drive, 15-inch graphics monitor, and more.

FOR INFORMATION CIRCLE 2

Move Your Micro Scope

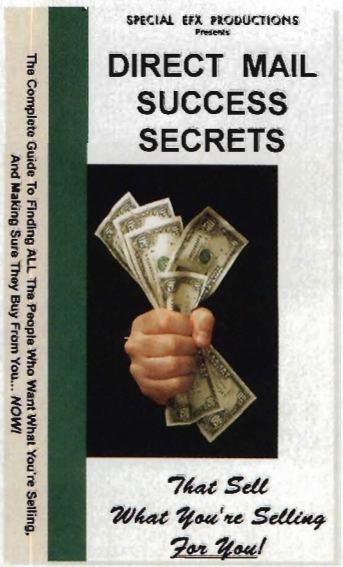
Product: Carrying cases
Description: Hold Hamlet Micro Scopes
Price: Starting at $45
Feral Industries
9204 Bond St.
Overland Park, KS 66214
(913) 492-4666
Fax (913) 492-5556

Feral Industries has announced the release of lightweight nylon *carrying cases* for the portable Hamlet Micro Scope Waveform/Vectorscope series.

Postal Profits

Product: Direct Mail Success Secrets
Description: Marketing instructional video
Price: $69.95
Special EFX Productions
15155 S.W. 44th St.
Miramar, FL 33027
(305) 430-5626
Fax (305) 430-7541

Special EFX Productions has announced the release of *Direct Mail Success Secrets*,



a tape teaching video producers how to successfully attract clients via direct mail. Drawing upon extensive experience, executive producer Alba-Marie Besteni zeroes in on all the elements that influence a successful direct-mail campaign, such as finding the right list and writing an effective sales letter that starts selling the minute it gets opened. This two-hour production covers every detail of designing and executing a direct-mail sales campaign that will increase your customer base and your profits. Also included is a 27-page reference manual and two marketing-intensive special reports.

FOR INFORMATION CIRCLE 4

Surface It

Products: Texture Gallery
Description: Textures for LightWave artists
Price: $44.95
Amiga Library Services
610 N. Alma School Rd., Ste. 18
Chandler, AZ 85224-3687
(602) 491-0048

Amiga Library Services has announced the April release of *Texture Gallery*, a collection of textures perfect for use with LightWave 3D and creating bump maps. The multiplatform, 1.2GB two-CD-ROM set contains hundreds of 24-bit textures in a wide range of file formats (IFF, TARGA, JPEG and PICT). Brick, marble, skin and rock are just a few of the texture categories featured, and all textures are represented with thumbnail renderings allowing artists easy previewing.

FOR INFORMATION CIRCLE 5

Animations for Sale

Product: Backgrounds; Globes, Maps and Flags; Holiday and Christmas
Description: Animation packages
Price: $395 each (plus dub cost and tape stock)
Digital Animation Corporation
24445 Northwestern Hwy., Ste. 105
Southfield, MI 48075
(810) 354-0890
Fax (810) 354-0796

Digital Animation Corporation has announced the release of two of the six packaged animations in Volume V of the company's computer-generated animation series. *Backgrounds* contains 80 different animations in seven different formats—Static, Animated, Masks, Letter Box, Open to Black transitions, Textures and Painter—plus a producer's handbook illustrating a variety of ways to use them. *Globes, Maps and Flags*, featuring over 100 graphics and 3D animations, will similarly enhance your production. Its contents include 14 rotating 3D globes meeting conservative and glitzy needs; 3D maps on a dramatic, light-sourced background; and 3D flags of the world's leading countries, gently waving over zero IRE black. The *Holiday and Christmas* package consists of at least two graphics for each national holiday, one full-screen background graphic for video inserts and text, and one 3D animation over IRE black for keying over live action. Its Christmas section has more than 30 animations over black, full-screen backgrounds and animations, and Christmas cards that open to black. Also included are several of DAC's new 30-second Christmas packages treated with special filters and effects.

FOR INFORMATION CIRCLE 6

Different Standards

Product: the ADVANTAGE
Description: Standards converter
Price: $3,495
Feral Industries
9204 Bond St.
Overland Park, KS 66214
(913) 492-4666
Fax (913) 492-5556

Feral Industries has announced the release of *the Advantage*, an inexpensive, multifunction standards converter. the Advantage converts NTSC, NTSC 4.43, PAL, SECAM, PAL-M and PAL-N television standards and offers multiple composite and S-VHS video inputs and outputs. Resolution quality on the Advantage is superior, with eight-level line interpolation, a comb filter decoder and switchable image enhancement. The built-in TBC/Synchronizer with full proc amp control allows for color correction and output stability. the Advantage also offers special effects, such as freeze, negative/positive and fade-to-black. Other features include a built-in test pattern generator and burst and sync insertion on the output signal.

FOR INFORMATION CIRCLE 7

Carrying Convenience

Product: ProSleeve
Description: Lightweight CD holder
Price: $4.99 per 15-pack
Case Logic
6303 Dry Creek Parkway
Longmont, CO 80503
(303) 530-3800
Fax (303) 530-3822

Case Logic's *ProSleeve* is a thin, lightweight CD holder offering substantial protection and enhanced portability. Four times as compact as the hard plastic "jewel boxes" traditionally used to carry discs, the ProSleeve is made of synthetic material uniquely suited to protect CDs from scratches, and it won't shatter if dropped. Using the ProSleeve, CDs are easily transported to and from the desktop, car, school, office, or anywhere they are used. With this and other products in Case Logic's ProFile System, a comprehensive line of multiple-disc storage products, users of music and computer CDs can catalog and transport individual discs, disc collections and portable CD players with ease.

FOR INFORMATION CIRCLE 8

Previous Exhibitors: JVC • Canon USA • Sharp • Nady • NRG • Azden • NewTek • Hotronic • Sony •Panasonic • Everything Video •

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• Smith-Victor • Starlite Video • Fargo Electronics • TAO • Desktop Images • Pinnacle Systems • VideoMatic Group • Reel to Reel Video • G&G Technologies • Rab-Byte Computer Graphics • Truevision • Chyron •

• Carlson-Strand •Armato's Video • Capital Cassette • Lectrosonics • Pro Video & Computer Depot • Elite Video • Producer Series • Lowel-Light • Bogen •

FOR INFORMATION CIRCLE 157

NEW UPDATES

Printing Power

Product: The Color Driver
Description: Printer driver for Epson Stylus printer
Price: $44.95
Endicor Technologies, Inc.
P.O. Box 29000 #355
San Antonio, TX 78229
(210) 650-4988
Fax (210) 650-0054

Endicor Technologies, Inc. has announced the release of version 1.2 of its printer driver for the Epson Stylus Color printer. *The Color Driver* is a standard Workbench preferences printer driver that allows users to take full advantage of Epson's 720x720 dpi color inkjet printer. It supports optional MicroWeave printing, an Epson feature that uses overlapping passes to reduce banding, and requires Workbench 1.3 or greater. The driver also implements horizontal and vertical white-space stripping, Epson compression mode 2 and a density correction for 720 dpi modes. New for version 1.2 is a utility to assist in calibrating the printer for optimum print pass alignment, helping to produce higher-quality output. The Color Driver fills the gap left by the manufacturer's lack of Amiga support and by Commodore's EpsonQ driver, which can only drive the printer at up to 360x180 dpi.

FOR INFORMATION CIRCLE 9

C'mon and Join Together...

Product: Amiga Envoy 2.0
Description: Networking software

Price: $59.95 ($25 upgrade)
Intangible Assets Manufacturing
828 Ormond Ave.
Drexel Hill , PA 19026-2604
(610) 853-4406
Fax (610) 853-3733

Amiga Envoy 2.0, commercial peer-to-peer networking software for the Amiga, has gained a number of features for this updated version. New options include support of AmigaOS 2.04 DOS packet types (including notification and record locking), support for removable media, enhanced reliability and robust recovery, localization and AmigaGuide documentation. The program requires Workbench 2.04, Kickstart 2.04, 512K RAM and SANA-II compatible networking hardware; Workbench 3.1, 1MB or more of RAM and HD are recommended.

FOR INFORMATION CIRCLE 10

PRODUCT ANNOUNCEMENTS

Send your company's new product announcements and information to *Video Toaster User*, Attn.: New Products, 273 N. Mathilda Ave., Sunnyvale, CA 94086, or call us at (408) 774-6770, Fax (408) 774-6783.

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Digital Video Magazine
March 1995

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• Automatic Edging, Shadows and Beveling	• No automatic edging effects
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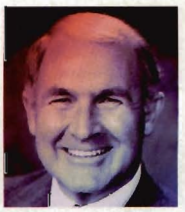
FOR INFORMATION CIRCLE 136

TOASTER POST

Knowing Your Worth

How to Negotiate a Price and Budget a Script

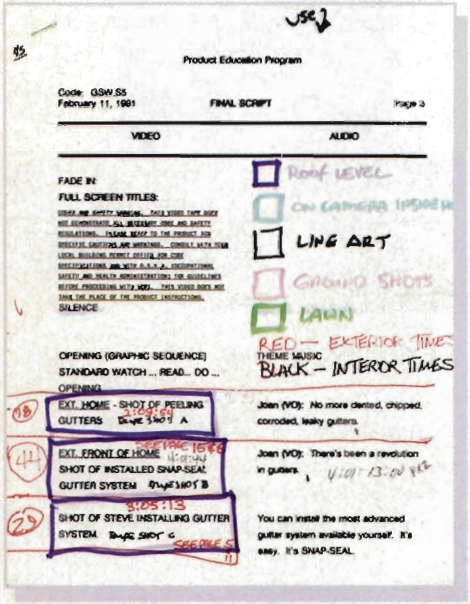


by Burt Wilson

"The lyf so short, the craft so long to lerne."
—an old craftsman's lament

I will give you a piece of advice right now and I guarantee that if you follow it you will never lose money on a TV commercial or video production.

The advice is: Never submit a bid without seeing a script first. And just as I am sure that you will never go broke following that advice, I am just as sure you will ignore it at least once in the next month. Someone will come up to you and ask, "Hey, can you give me a ballpark figure on how much it would cost to do a video?" And you will provide a quote. Sorry, it's just human nature. Thus, the corollary to my first piece of advice is even more important: Never give anyone a ballpark figure for a video. If you follow these two rules, you will live long and prosper. If you don't, there will be much pulling of hair and gnashing of teeth, and a few months slashed from your normal life expectancy.



Product Education Program

Code: GSW.S5
February 11, 1991 FINAL SCRIPT Page 3

VIDEO AUDIO

FADE IN:
FULL SCREEN TITLES:
SILENCE
Roof LEVEL
ON CAMERA INSERTS
LINE ART
GROUND SHOTS
LAWN
RED – EXTERIOR TIMES
THEME MUSIC
BLACK – INTERIOR TIMES
OPENING (GRAPHIC SEQUENCE)
STANDARD WATCH ... READ... DO ...
OPENING
EXT. HOME - SHOT OF PEELING GUTTERS
Joan (VO): No more dented, chipped, corroded, leaky gutters.
EXT. FRONT OF HOME
SHOT OF INSTALLED SNAP-SEAL GUTTER SYSTEM
Joan (VO): There's been a revolution in gutters.
SHOT OF STEVE INSTALLING GUTTER SYSTEM
You can install the most advanced gutter system available yourself. It's easy. It's SNAP-SEAL.

Analyze a script in terms of cost and estimate how much work needs to be done.

In negotiating video prices, you have to begin with the premise that most prospective clients—especially since the advent of personal video production with the Video Toaster—don't know how much doing video costs. They relate it to getting a camcorder and doing a bunch of shots with only a tripod and a light or two. They certainly need to be educated, but frequently, trying to educate them results in your losing their business because you showed up their lack of knowledge and embarrassed them. You may have an ego win, but you have a monetary loss.

To compensate and to start the money flowing, you have to use humor. When a potential client describes a video he wants to make and then asks me for a ballpark figure, I say, "Sure—from $500 to $50,000. Which ballpark do you want to play in?" He laughs and says, "Well, what do I get for $500?" I say, "Your name on the screen for 30 seconds." Remember, you're smiling all the way through this video mating dance. Just keep smiling and he will soon realize how ridiculous his opening gambit was. Your use of humor will deflect his taking it all personally and he will probably view you as a serious, competent negotiator. After dancing around a few times, it is not improper to ask, "Well, what do you expect to pay for such a video?" Boom, you're qualifying him. He will either give you an answer or he'll stall. If he has an answer, you have won control of the negotiation and the rest is easy. If he does not want to give you an answer (because he recognizes that he will lose control of the negotiating process), prod him a little bit. Say, "Surely you have some parameters that you can live with; why don't you want to discuss them?" No matter what his reply is, keep answering him with questions. Keep at it and you are sure to win. If you do all you can and he will still not get into a discussion of price without you first giving one, get a little testy. If that doesn't work, forget it. You may lose the job, but it will not be a job you would have wanted anyway. So even though you lose, you win.

The toughest lesson you have to learn in this business is when to walk away from trouble. Thus, do not let the expectation of a few dollars obscure your sense of discrimination about the whole deal. Take it all in and cast a hard eye at what's going down. Make a decision based not only on price, but on the subjective aspects of the negotiation as well. Remember, it's OK to use your intuition. That's why you have it. If you are lucky enough to get a script to bid on, take it home and devote a few quiet hours to analyzing it from the standpoint of cost. Here are some tips:

1. First, find out how many setups are called for. A setup is where you have to move the camera to a new location. Remember, every time you do that, you also have to relight. Each setup can take from an hour to an hour-and-a-half. So count the setups and add up the hours.

   By the way, this is where working with an experienced crew comes in handy, especially if they have worked with you for some time. They already know what is called for and can respond quickly. Also, the more people there are in the scene, the more lights you will have; if there are moves, that sometimes requires additional lights. Be aware of all the possibilities.
2. Go through the script and count the number of edits you will have to make. Where a subject is speaking on camera, count that as one edit. Where there is a voice-over, count that as two edits—one for the voice edit and one for the picture edit. Also, count how many music edits you will have. Then, use a formula that you are comfortable with for totaling up the work involved. You may want to count one edit as seven to 10 minutes. Remember, you have to take into consider-

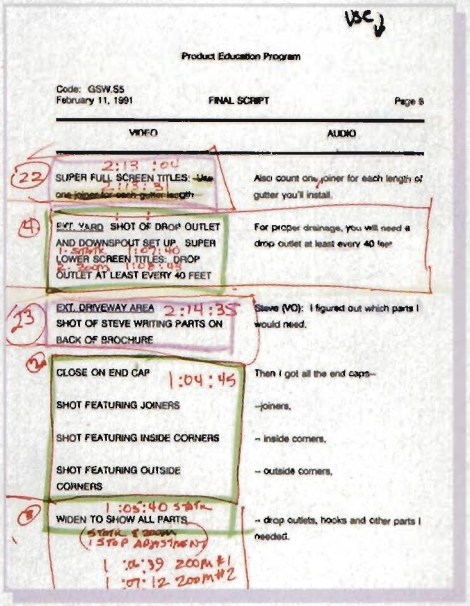
ation finding the shot on the source reel, setting up the edit points and making and reviewing the edit. Put a time on whatever suits your speed and your system and use that as a multiplying factor to figure out how long it will take you to do the edits. This is one of the most important things you can do in costing out post-production. If you have a Flyer, you'll have to cost out the time it takes to find a source segment and feed it into the Flyer to digitize it, and then how long it will take to call up that segment and set the parameters for the beginning and end in order to integrate it into your edit.

3. Now add up all the CG and graphics called for in the script. Since you have a Toaster, you know how long it takes to do a super, a logo or a graphics framestore. It may be from 15 minutes to an hour for each one, depending on what's involved. When you're finished, add that up in the mix.
4. Determine how many shoot days are involved. If, for example, you are shooting in a studio and you figure there are four 10-hour shoot days involved, you might want to schedule three 15-hour days. Overtime is a good way to save money because you don't have to pay for the equipment—just the people. At least do a cost analysis. You may find that overtime is a better way to go, and this savings alone may win you the job. Also, you do not have an hour's tear-down time at the end of the first two days.

There may be other things involved, too. Your client may want you to do an off-line edit, and you will have to figure out how much you're going to charge for that. There may be travel and food expenses (the client almost always pays for these). It's also within your province as a producer/director to send people home early. For example, if you have to do voice-overs, you are probably going to plan to do them on the same day that you did the on-camera shots so you can get the same ambient background for the whole production. If so, you can release your lighting people early. You only need video for reference purposes and one light is sufficient for focusing a camera on the talent. The point is, you are responsible for thinking of all these things beforehand in order to pull your shoot off in a cost-efficient manner.

Plan for the Unexpected

When you have a total figure you can live with, add a little more. Always plan for things to go wrong somewhere. You have to have a contingency fund in your shoot and your client should expect that. Have you ever been on a shoot where everything went according to plan? I thought not. So add in some more dough for contingencies. Also, do not sell yourself short and do not give anything away for free. If you do great graphics, charge for it. If you are also a script consultant, charge for it. If the client asks you to do another graphic during post-production, charge for it.



Product Education Program

Code: GSW.55 — February 11, 1991 — FINAL SCRIPT — Page 6

VIDEO	AUDIO
22 SUPER FULL SCREEN TITLES: Use one joiner for each gutter length	Also count one joiner for each length of gutter you'll install.
49 EXT. YARD SHOT OF DROP OUTLET AND DOWNSPOUT SET UP. SUPER LOWER SCREEN TITLES: DROP OUTLET AT LEAST EVERY 40 FEET	For proper drainage, you will need a drop outlet at least every 40 feet
23 EXT. DRIVEWAY AREA SHOT OF STEVE WRITING PARTS ON BACK OF BROCHURE	Steve (VO): I figured out which parts I would need.
CLOSE ON END CAP	Then I got all the end caps—
SHOT FEATURING JOINERS	—joiners,
SHOT FEATURING INSIDE CORNERS	– inside corners,
SHOT FEATURING OUTSIDE CORNERS	– outside corners,
WIDEN TO SHOW ALL PARTS	– drop outlets, hooks and other parts I needed.

This color-coded script includes notations for shooting out of sequence.

Does all this seemingly prosaic pre-production planning take away from the creativity you're longing to inject into the project? Absolutely not! You can still analyze a script from an artistic standpoint and look for places where you can do things better than what the directions call for. Doing this has a way of making clients sit up and take notice. You may even end up making suggestions that are not only creatively pleasing to the client, but save you some money in the process.

Color Coding

OK, let's say you did all this and you got the job. Now you have to turn your script into a director's shooting script. The first rule here is: Learn to shoot out of sequence. That's right. If you can't shoot out of sequence, you have no business being a director. Analyze your script and color code it as to which shots will be taken where and when. Put one color around all graphics. Put another color around all inside shots. Another color around outside shots. Another for this location and that. Another for voice-overs and yet another for shots without sound, such as limbo shots. When you're finished, cut up your script into pieces and put all the shots of the same color together, and follow that pattern for the whole script. On shoot day, just go through your revamped script according to color, making sure you cross out everything you have done on both the video and the audio side.

If you're smart, you'll invest in a production board. This is simply a board that holds long pieces of thin cardboard that are stacked vertically. You write each shot on one of these strips and then place it in order in the board. When you shoot a shot, simply lift out the strip and turn it over. It's a foolproof way to organize your shoot and especially to make sure you get every shot you planned for. There's nothing worse than getting home from a shoot and finding out you missed a shot.

If you're the director, do not try to both direct and take care of your shoot list—whether it's a color-coded script or a production board. Hire a script person to follow you around and not only note what shots have been taken, but write down on a separate list the reel, time-code and the number of takes involved. If you know the take you want, say so and have the person circle that particular take on the shot list. Remember, the more information you have when you get back to post your shoot, the better off you're going to be. You may think that a script gal or guy is an extra expense, but money will be saved in the long run in post. Believe me!

I hope these production tips will be of value to you. If you have any you would like to share with our readers, please send them to me in care of *VTU*.

VTU

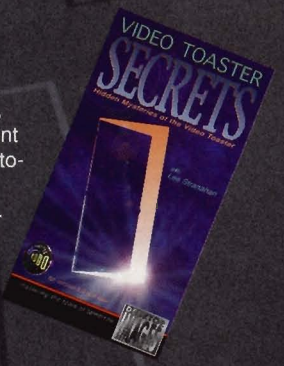
Burt Wilson is an award-winning writer/producer/director in Southern California. His new book is titled "Complete Post-Production with the Video Toaster."

When You Need The Desktop Images

Lee Stranahan

Known as "The World's Smartest Toaster Guy", Lee has taught the power of the Toaster and LightWave 3D throughout the world at his training seminars. Lee's insight offers invaluable speed and efficiency with his timesaving tips and techniques.

VIDEO TOASTER SECRETS



Travel deep within the Video Toaster as top instructor ***Lee Stranahan*** reveals little-known secrets inside LightWave 3D, ToasterPaint and the Amiga operating system! Create ToasterPaint graphic elements and effects automatically. Discover powerful automated functions in LightWave 3D. Customize ToasterPaint and Lightwave 3D preference files for increased speed and efficiency. Discover the power of *AREXX*. Plus, learn basic Amiga workbench functions to organize projects, change, move and maintain files. 115 min. **$49.95** + s/h

VIDEO TOASTER START-UP

with Lee Stranahan

Get up and running fast with this introduction to the Video Toaster. Learn the basics of the switcher's special effects, luminance keyer and ChromaFX. In ToasterCG, load and size fonts, select font colors and superimpose text over live video. In ToasterPaint, learn basic drawing tools and how to colorize and save framestores. In Lightwave 3D create three dimensional text objects, add motion, and create a complete 3D animation. This basic instruction will send you well on your way to operating today's most powerful video production system. 90 min.

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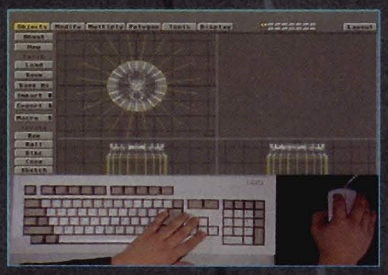

STUDIO 16 PRO AUDIO FOR VIDEO

Learn how to use the powerful tools in the Studio 16 multitrack recording system to create a professional soundtrack for your video productions. Sunrize Industries' ***Tony Shannon*** hosts this complete step-by-step guide to Studio 16's Timeline Cue List, Digital Waveform Editor, Automated Mixer, Sample List, and Recorder. Follow along as he creates a soundtrack for a feature film trailer. Plus, ***Emmy award winning dialogue editor David Scharff*** demonstrates techniques he uses on such shows as *The Untouchables, Viper, Movies of the Week* and others! 95 min.

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Tony Shannon

Technical Sales Manager for SunRize Industries and Studio 16 demonstrator extrordinaire.

David Scharf

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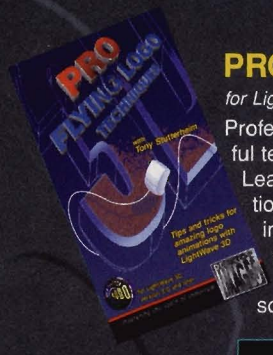

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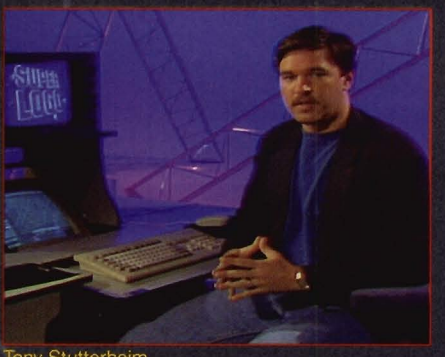

Tony Stutterheim
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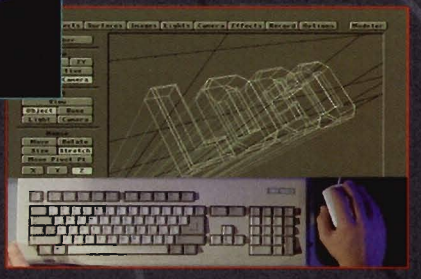

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FOR INFORMATION CIRCLE 108

DEAR JOHN

Weighing Your Options

Expect an Impressive Performance from PC LightWave

by John Gross

The Amiga market is changing and readers have questions about making the adjustment. Here are a few from the Toaster grab bag:

Q: As an animator, I realized years ago that the Amiga was my best option. After seven years of working with it, I know it was the right choice, and I've never thought about quitting it until now.

I own an Amiga 4000 '040 25MHz with 18MB of RAM, a Video Toaster 4000 and the personal SFC to record animations to tape. In fact, I almost always use LightWave exclusively. I think the Toaster is a very powerful system, but I bought it just because of LightWave. I'm a LightWave lover.

First, when I read that NewTek was releasing a standalone version of LightWave, I thought about selling my Toaster and buying this new version of LightWave, a new framebuffer like the Retina card, plus VLab Motion or the PAR to record my animations in real time to tape. Then I read that NewTek would also be shipping a PC version of LightWave.

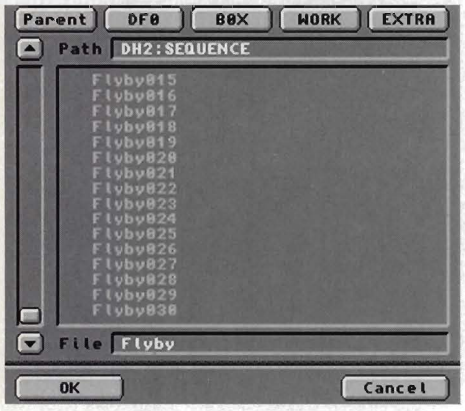

Figure 1

Here's my dilemma:

As a designer, I always worked with a friend's PC. I really don't like the desktop publishing programs available for the Amiga platform. I feel much better working with Corel Draw and Aldus PageMaker. I even taught classes about both programs.

I can't afford both computers and I need to make a choice. Having LightWave run on the PC platform may be the way of joining animation and desktop publishing.

I am currently involved in daily research to find out if changing platforms is worth it. I would like to ask you a few questions:

1. Can I expect the same performance from LightWave on the PC platform?
2. How fast is LightWave on the PC?
3. Is it as fast on a PC 486 DX4 100MHz as it is on an Amiga 4000/040?
4. Which is the fastest processor—Intel or Motorola?
5. On the PC, must I buy an accelerator board like ShaBLAMM!'s Nitro-VLB for LightWave to work properly?
6. Does DPS' PAR work without a TBC?
7. What do you think about this configuration?

A PC 486 DX4 100MHz and 16MB RAM, Video Seven video card, NEC Multisync 4FGE monitor, Adaptec SCSI-II controller, Seagate SCSI 540MB hard drive, Micropolis SCSI 1.7GB AV Series hard drive, DPS PAR for the PC, Targa 32 Framebuffer for still images, NewTek LightWave 3D 4.0 and a multimedia kit (CD-ROM drive, etc.)

Paulo Felberg
Felberg Computer Graphics
Copacabana, Rio de Janeiro
Brazil

A: OK, here goes:

1. Can you expect the same performance? No. You can generally expect better performance from LightWave on the PC.
2. How fast is it? Well, it depends on the PC. At press time, LightWave is still being finalized for the PC, so true render tests aren't available yet. I would venture to say that a 100MHz Pentium is anywhere from four to eight times faster than a stock Amiga 4000.

   As a quick test, I rendered the Texture Examples scene on my 100MHz Pentium running a beta version of 4.0 using the following settings: Trace Shadows on, Medium Res/Medium Antialiasing, D2 Pixel Aspect Ratio, Adaptive Sampling 8, Segment Memory 8670000 and Save RGB (IFF format) selected.

   With these settings it took my Pentium four min., 31 sec. (271 sec.) to render the scene. With Trace Shadows turned off, it took two min., 34 sec. (154 sec.) to render. Try these same settings on your 4000 to compare.
3. I would say it should be as least as fast running on a 486 66/100 as a 4000/040.
4. It's pretty hard to say which processor, Intel or Motorola, is fastest, as it changes constantly. Right now, if you want the absolute fastest, you should buy a workstation running a DEC Alpha chip. The same test scene mentioned above rendered in one min., 50 sec. (110 sec.) with ray-trace shadows and one min., seven sec. (67 sec.) without shadows on a 275 MHz Alpha workstation.
5. No, you do not need to buy an accelerator board to run LightWave on the PC.
6. I do not believe that the PC PAR will let you capture video without a TBC, but you can certainly record LightWave animations to the PAR without a TBC.
7. Your configuration sounds like it will work fine. As always, you should try to buy the most computer you can for the money you have available.

Q: You have probably answered this question in the past, but I have been baffled by this: How were the images on the floating leaf in Todd Rundgren's "Change Myself" from the Warner Bros. album "Second Wind"

accomplished? I have tried using the Images menu in LightWave in every conceivable way. I can get the images loaded, but when I opt to get a sequence, they don't load! I have tried putting the images on a moving coin object, but when I try to render them, I get the "Can't find image" message. I am doing everything the manual is telling me to do when it comes to taking the first numbers off, etc.

Could you explain this to me? I'm pretty sure you can do a better job than the manual.

Leo Reyes
Austin, TX

A: You are correct, I have answered this question a few times in the past, but I think it bears repeating, as many people run into this "problem."

Todd Rundgren mapped his image onto the leaf by simply using an image sequence of himself captured from video. Image sequences can be used for all sorts of things, including moving clouds in the background, a talking head on a TV set in a virtual room, or an explosion in front of a spaceship.

LightWave can use sequences of images or framestores (version 2.0 Toaster and up). The images have to be named the same, numbered consecutively and located in the same directory for LightWave to be able to use them. Sequences can be in any IFF, 24-bit Targa (LightWave 3.5 and up) or Toaster framestore format (Toaster 2.0 and up).

In order for LightWave to find the sequence, you must remove any reference to the three-digit suffix a sequence may contain. This means that if you have Flyby001, Flyby002, etc., you must select just "Flyby" as the sequence name. If your sequence contains four digits at the end, you would only remove the last three, leaving the name as "Flyby0." If your sequence is a framestore sequence, remove the "###.FS." at the beginning of the name, leaving just "Flyby." Figures 1 to 4 show some possible configurations.

At any given frame, LightWave attempts to load the image from the sequence for that frame. For instance, if you are rendering frame 10 of your animation, LightWave attempts to load frame 10 of the sequence (assuming you have no offset—more about that in a bit). If LightWave can't find the frame it needs, it searches back until it finds one. This feature is handy if you wish to "animate in twos." You could have a sequence that contained every other frame, such as Flyby001, Flyby003, etc. LightWave would use image 1 of the sequence for frames 1 and 2, image 3 for frames 3 and 4, etc.

Figure 2

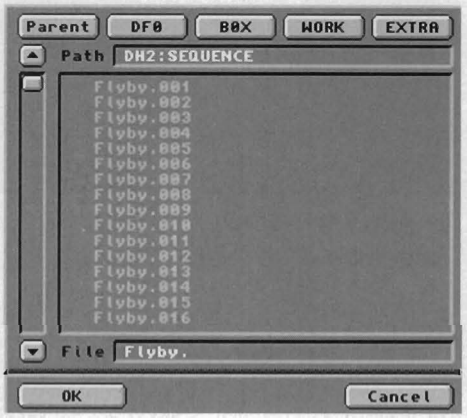

Figure 3

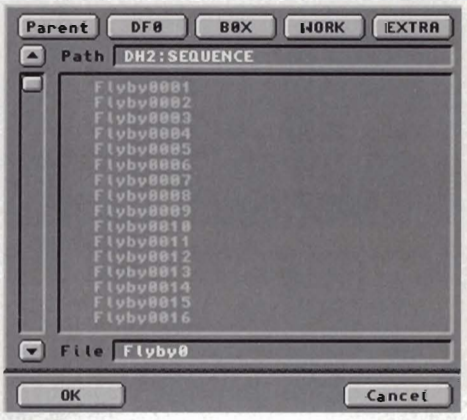

Figure 4

What if your image sequence starts at image 30, but you wish to use it starting on frame 1 of your animation? With the Frame Offset function in the Images panel you can tell a sequence where it should begin. Simply add the Frame Offset value to the frame number you want to render to determine which image of the sequence will be used. By default, the Frame Offset is 0. This means image 1 of the sequence will be used for frame 1. If you wish that image 30 of the sequence be used on frame 1, you would want to use a Frame Offset value of 29 (29 + 1 = 30).

The reverse is also true. If you want image 30 of the sequence to be used on frame 150, you would want to use a Frame Offset value of -120 (-120 + 150 = 30).

Remember that Frame Offset is saved as part of the object file and not part of the scene, *unless* the image sequence is being used as a background or foreground image.

Here's a great tip for using multiple objects that share the same sequence: Let's say you want five different explosions to go off in a scene at slightly different times, and you want to use the same explosion sequence for each one. The key is using Frame Offset to control the timing of the explosions. The problem is that only one Offset value can be used for any one image sequence. Here's the work-around:

- Create your five different explosion objects and make sure to use a different surface name for each one. Save each with a different name.
- Load your image sequence and apply it to the first surface. Determine the Offset value needed and then save the object.
- Choose Load Sequence and select the same image sequence, but change one of the letters from upper case to lower case, or vice versa. Even though you are using the same sequence as far as the Amiga is concerned, LightWave is case-sensitive and will treat it as a separate sequence, allowing you to choose a different Frame Offset. Apply these steps to your second object and save it out.
- Simply repeat this process, changing one or more letters in the sequence name to make it different from the last one. When you save the objects (make sure they have different surface names!), LightWave will save the offsets with them.

Now, when you render, LightWave will use different images from the *same sequence* on any given frame of your animation.

VTU

TIPS & TECHNIQUES

Poor Man's PAR

Attacking Playback Problems

by Brent Malnack

For Toaster 4000 owners, it is possible to play back LightWave animations as an overlay in real time. It is also possible to play back full-screen animations created by LightWave, provided that no more than 25 percent of the pixels comprising the image change between each frame. Anyone that has experimented with these previews has probably encountered this limitation frequently.

This tip, which has been floating around for awhile now (sent to me by an unknown contributor), allows you to bypass the error message in LightWave and successfully create your preview animation. It requires a fair amount of hard drive space, so make sure you have enough room to hold the entire number of fully rendered frames in the sequence.

In the Record control panel, select SaveRGB images and choose a place to store the frames. Render the animation. To get the best results, you may want to antialias the animation at the highest level that you have time for.

Clear the scene after the frames have been rendered. Now, with no objects loaded, go to the Images control panel and load the rendered frames as an image sequence. Go to the Effects control panel and select the image sequence as the background image. Finally, go to the Record panel, select a Low Resolution Preview animation and render.

Though you have escaped the error message, you have also diminished the image quality substantially. Animations created with this technique may be suitable for client previews, but they are certainly not acceptable for broadcast.

My advice to serious animators is to save up for a DPS Personal Animation Recorder, or get a Flyer.

This logo's surfaces look fine over a black background, but the logo is to be keyed over a video segment.

When keyed over the video segment, the logo doesn't match up very well. It is too dark and dramatically lit.

With a few test renderings over a frame grabbed from the video segment, the colors have been adjusted to complement the background video.

Color Matching Keyed Animations

This is an older tip from my "Mastering Toaster Technology" book. When you are creating an animation, such as a 3D logo that needs to be displayed over a video sequence, it is important that the look of the logo animation matches well with the video. When setting surfaces for a logo, you would typically spend a lot of time test-rendering the logo over a black background until you get the proper look. This approach can be the cause of many problems later.

The best way to prepare a logo is by using your Toaster to grab a frame from the sequence of video. Select it as the background image and prepare your logo's surface to look good over the video image. Pay particular attention to the lighting in the video image. If the logo is set up with too much dramatic lighting, it will not look attractive over the video image. Usually, you want just enough definition in the edges so that the logo is clearly visible but not jumping out.

Stunt Objects

Another handy tip when using LightWave is to use replacement objects when first creating an animation. Because LightWave takes longer to ren-

continued on page 28

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FOR INFORMATION CIRCLE 144

der an image based partially on the number of polygons in the scene, it makes sense to test render the scene with as few polygons as possible.

There are two solutions for building "stunt" objects. First, when you are in Modeler, you always have the option of setting numeric values for many of the program's functions. So, if you are creating an object with the Lathe tool, you can alter the default setting of 16 sides down to a lower number for the test renderings. The key here is to save the shape used for the Lathe operation before using it. Once the shape has been saved, you can construct an object with eight sections for test purposes, and use one with 32 sections for final rendering.

When creating smooth objects with the Metaform command, you can save a version of the object before metaforming it. Use this copy for test renderings and path creation. Later on, you can replace the object with the metaformed version.

Included with the Dynamic Motion Module is a Modeler macro called Simplify, which reduces the number of polygons in an object. The lowest value produces an object from 128 polygons, no matter how many it started out with. (There can be a fair amount of cleanup when reducing severely.) This macro can make stunt objects with little effort.

Managing Memory

On occasion, you will create an animation in LightWave that needs more memory than you have available in your system. This high requirement is usually due to either the number of polygons or the number of images used as texture maps. If you encounter this problem, the best thing to do is to color reduce 24-bit texture maps down to 8-bits, a task easily accomplished with Art Department Professional.

Load the image into ADPro, set the rendered screen to 256 colors, and save the image with a different name. (You may want to keep the original 24-bit files.) In LightWave, use the Replace image command for each 24-bit image. Once all the replacements have been loaded, resave all of the objects in the scene with the Save All Objects command. This associates the new images with the objects.

Realistic Lighting

If you have a basic understanding of lighting for photography and video, it can be wise to apply that knowledge to LightWave. To have complete control over the look of your animations, start with an Ambient Light value of zero percent. Ambient light in LightWave is similar to the light found when shooting outdoors.

Load any object and render it. Turn the default light 1 into a spotlight of a distant light. Position it in the scene and render. Notice that there is a tremendously different look to the image. Place a few other lights in secondary and fill positions. Control the level of each light and render again. With very careful adjustment of the type and position of lighting, you can re-create the surroundings found in a typical production studio.

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FOR INFORMATION CIRCLE 117

SOUND REASONING

Fishpoles and Other Mic Mounts

Accessories for Achieving Quality Audio

by Cliff Roth

Most beginning videographers are very aware of the mounting of their cameras during recording. A good tripod is considered de rigueur for any serious video work. But far less attention is usually paid to the microphone mounting.

If you're putting together a basic kitbag of essential audio tools for your video productions, be sure to include a fishpole microphone mount with your microphones and headphones.

The fishpole is a long aluminum or fiberglass extension tube with a microphone shock mount at the end. Usually expanding to somewhere between five and 15 feet, the fishpole is a useful accessory for even very low-budget video productions. It costs approximately $150 to $300, and can improve your soundtracks more than microphones costing twice as much. The FP7680 from Markertek Video Supply, for example, sells for $280 (shock mount extra) and extends to 12 feet.

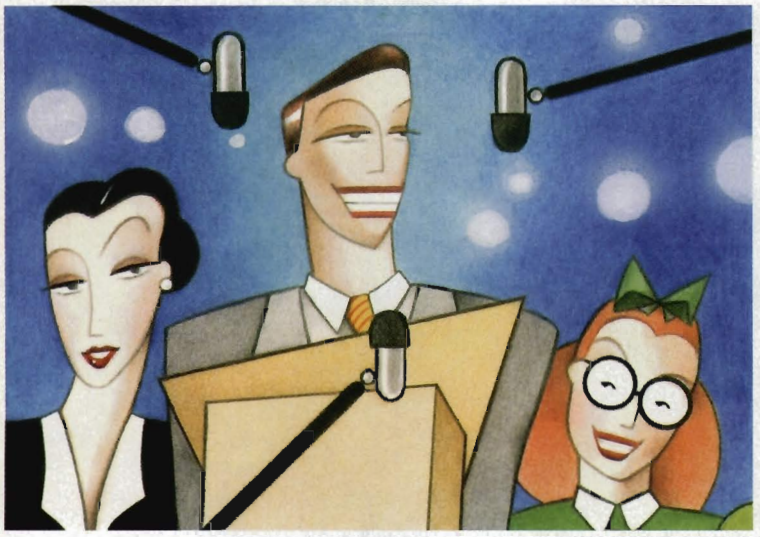


ILLUSTRATION BY DAVID SMITH

People Who Need People

The fishpole requires the availability of a crew person, called the sound recordist, to operate it. This fact alone may help upgrade the audio quality of your video productions. Just getting someone to concentrate on nothing else but the sound recording is a major step forward for anyone used to running a one-person production crew.

The fishpole is used extensively in dramatic film and video production, where it's absolutely imperative that the microphone stay outside the frame. It's also commonly used in TV news gatherings, to pick up people making public statements with large media crowds huddled around. Many documentary film and video producers also prefer to use fishpoles for interviews, rather than the more intimidating hand-held microphone.

For wide shots of people speaking, the fishpole is usually angled up, so that the microphone faces down from above the actors' heads, just barely out of frame. For medium and close-up shots, the fishpole can also be held low, underneath the frame line, pointing up toward the actors' throats.

The basic rule of fishpole placement, as with miking in general, is that you want to get the microphone as close as possible to the people speaking. Point it toward the lower throat area, rather than the mouth, to pick up a deeper, more resonant sound with less likelihood of popping "p" sounds.

How do you decide whether to hold the fishpole above or below the people speaking? There are a number of factors that may decide the question, but in general you should start above and then move below if problems arise. Usually, the overhead position lets the microphone get closer to the people speaking, though this varies, of course, with the shot. The overhead position also tends to pick up less background noise, because, looking beyond the people speaking, the microphone is pointing toward the floor. This angle picks up less extraneous sound than pointing the microphone up toward a ceiling, especially if the floor is carpeted. When the floor is highly sound-reflective—such as linoleum or varnished wood—the sound recordist sometimes puts a small piece of carpet or a foam pad on the floor where the microphone faces, to minimize echo pickup.

When shooting on-location in cramped spaces, finding a place for the sound recordist to stand or sit will sometimes dictate fishpole placement. And movements by the actors, such as hand gestures or walking, must also be taken into account.

Though it's a relatively simple device, the fishpole can offer very precise control over the facing of the microphone—the direction it's pointed in—simply by twisting the pole. Some models have a spring-loaded trigger button that changes the angle of the microphone mount relative to the pole.

When recording dialogue between two actors, the "boom operator" or sound recordist twists the fishpole to face one actor or the other. This motion needs to be planned out in advance and rehearsed to be done smoothly. If one actor is speaking louder than the other, the fishpole is held so that the microphone is closer to the more soft-spoken character.

The fishpole is used in conjunction with a microphone shock mount to minimize the transfer of vibrations from the pole to the microphone. The classic shock mount design, such as Audio Technical's AT-8410a, uses a set of rubber bands stretched in the middle of a ring so that they clamp down clothespin-style on the microphone, which is placed in the center. The more streamlined-looking AT-8415 uses stretched neoprene bands to hold the microphone in the middle. Both models sell for approximately $50, and can also be used with regular microphone stands and booms.

When working outdoors, professional film and video sound recordists usually don't mount the microphone directly on the end of the fishpole. Instead, they mount a big windscreen, commonly called a zeppelin (because it looks like a blimp), on the fishpole. The microphone gets installed in a shock mount in the middle of the zeppelin. The Super-Screen windscreen from Markertek Video Supply costs about $400 to $500, including the mounting system, which is sold separately. The price depends on the particular microphone you buy it to use with. The manufacturer says wind noise is attenuated by 25 decibels, while mid-range voice frequencies are picked up at full level.

Microphones and Headphones

Although any microphone can be mounted on the end of a fishpole, most professional sound recordists prefer to use directional or hyperdirectional shotgun microphones.

On a low budget, the Audio Technical AT815XLR (about $250) is a good choice. More expensive models include the AT4073 (about $800) and the Sennheiser ME 88 (about $600, including K3U Powering Module).

The more directional the microphone is, the less it will pick up unwanted, extraneous sounds coming from directions other than where the talent is speaking. But more directional microphones require much greater care in use—you must point them precisely at the person speaking, or your sound pickup will suffer from what audio engineers call off-axis coloration.

This tonal change occurs because the degree of directionality varies depending on the frequency (pitch) of sounds being recorded. Thus, as someone speaking moves off-axis relative to the direction the microphone is pointing in, their level not only decreases, but the tonal quality (harmonic content) of the voice changes as well. This can sound extremely annoying.

It is therefore absolutely essential that the person operating the fishpole also wear headphones to monitor the sound he or she is recording. It isn't enough to look at a level meter, see good signal strength, and assume everything is OK: subtle problems like off-axis coloration don't show up on a level meter. You need your ears to adequately assess signal quality, and to determine the optimum facing of the microphone.

"Though it's a relatively simple device, the fishpole can offer very precise control over the facing of the microphone."

Boom Stands

If you're working indoors, have enough space, and are dealing with stationary sound sources (that is, people who aren't moving around), you can use a boom floor stand instead of a fishpole.

Although a boom stand can obviously spare a sound recordist all the muscle aches that result from holding a fishpole, there are several advantages to the fishpole. Perhaps foremost is the noise reduction: When a human body holds a fishpole, the body tends to absorb any ambient footsteps or other noises that travel across the floor.

A boom stand tends to pass such noises through to the microphone. And a human holding a fishpole is simply more flexible, quick and intelligent when it comes to microphone facing.

For this discussion I'm talking about relatively inexpensive boom systems selling for approximately $200 dollars,

continued on page 84

SLICES

ToasterCG Enhancements in 4.0

ARexx Scripts Increase Feature List

by James Hebert

More ARexx scripts have been added to ToasterCG. Very cool ARexx scripts.

Hold it. I know what you're saying. You're making derisive comments like "So what?" and "Who cares?" as I used to do when someone told me that ARexx had been added to the Toaster.

Fact is, while I couldn't program my way out of a box if my life depended on it, I can come up with ideas for useful functions in the programs I use all the time. And the programmers in NewTek's Alcatraz can make them happen.

An image of the ARexx Launcher. Double-clicking on a script will run it.

Here's a short list of new items for ToasterCG, plus quick recaps of what's been discussed before so you get a more complete picture. I think you'll find something useful in each of them.

Copy/Paste All Attributes

The actual name of this shortcut will probably change to become something more friendly. The gist of it is this: once you've created a snazzy-looking color scheme, you can run this operation to save a description of that look to a file on your hard disk. Then, when you return from your Polynesian vacation a week later, you can begin work on new graphics with the same look simply by reloading that attribute file to the text you just entered.

There are two variations on this script. One version allows you to save the entire attribute description to a file for use anytime in the future. This is useful for saving your own favorite presets. There is no limit to the number of files you can save, other than your own hard drive space!

By the way, I recommend that when you name these attribute files you use thorough descriptions. For example, I have a favorite color scheme that uses a light blue to dark blue gradient on the face of the font, giving it an icy blue look. I named it IcyBlue, since that tells me exactly what I remember about those attributes. You might consider BlueGrad to remind you of the top-to-bottom gradient colors, or LtBlueDarkBlue, which is more specific. Further, if your attributes rely heavily on specific shadow settings, you might create some directories for them within the script area of the hard drive, such as SolidCast, SolidDrop, TransCast and TransDrop for the four major types of shadows.

These are just ideas for you to consider. However, if you spend some time organizing your files now, you'll save yourself a lot of confusion and searching later on!

The other attribute shortcut is a "current session only" version of this timesaver that automatically keeps the last-saved attributes in a specific file so you can apply them to the next item you select. Think of it as sort of a copy/paste function. This operation is useful for copying an attribute description, then jumping to a new page to apply it elsewhere, without having to save it to a file. Essentially, it saves you a step or two by bypassing the file requester.

Copy/Paste Text Face

This shortcut is a specific subset of the "all attributes" macro above. It saves and loads only the text face color(s). It will not affect any of the other attribute settings.

Copy/Paste Outline

This easy method is another specific subset of the "all attributes" macro above. Copy/Paste Outline saves and loads only the outline size and color(s). It will not affect any of the other attribute settings.

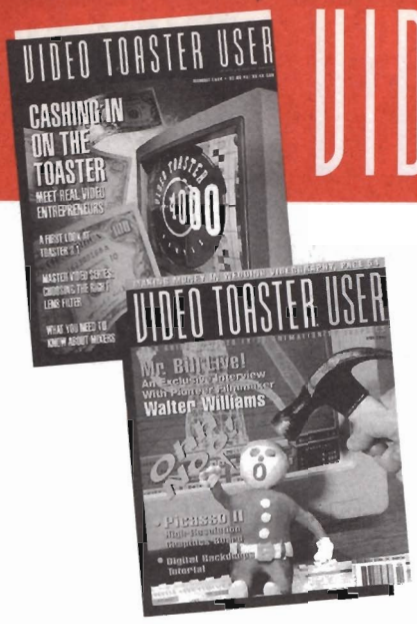
Copy/Paste Shadow

Yet another specific subset of the "all attributes" macro above, Copy/Paste Shadow pertains to shadows. It saves and loads only the shadow direction, length and color(s), and will not affect any of the other attribute settings.

BoxMaker

This script has been touched on before. It saves all of the boxes on the current page (with their attributes) to a file, which allows you to make all kinds of specialty boxes that can be recalled at a later date.

I also used this script to make a variety of underlines (thin, thick, half-width and full-width) for easy recall, since the underline character is not supported within ToasterCG.



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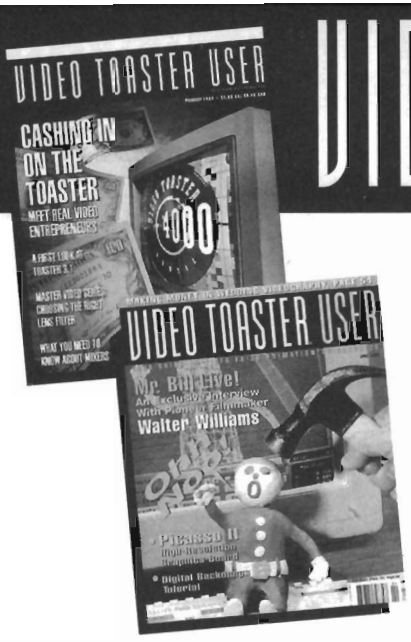

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Replace Font

How many times have you had to change a font—not just its size, but the font itself? Replace Font will do exactly that. To protect the graphics that you may have elsewhere in ToasterCG, Replace Font will only replace the font of the selected items on the current page. (A "global replace" that would replace all instances of the current font could take a great deal of time, and might not be what you really want.)

Larger Font

How often have you designed a page only to decide that the current font is just a bit too small? This macro saves you the step of having to locate and select a slightly larger font size. It automatically loads the current font again, in a size five lines larger than the current size, and applies that change to the currently selected item.

Because you may have other lines on the page (or on other pages) that still use the original font size, only the currently selected item will be affected.

Smaller Font

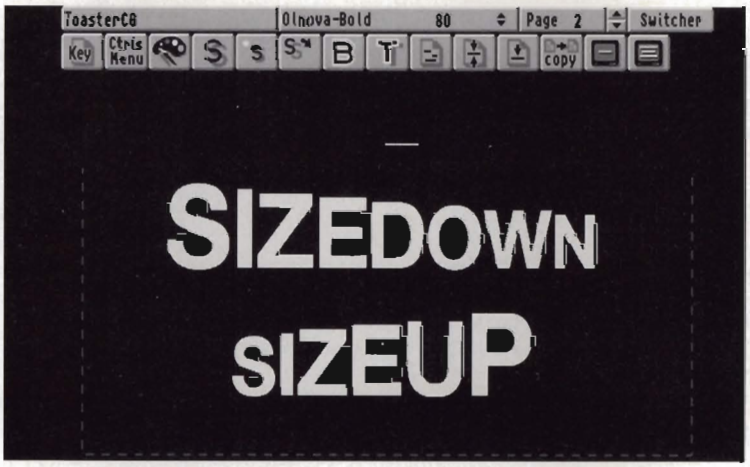
Conversely, how often have you designed a page only to decide that the current font is just a bit too large? This macro saves you the step of having to locate and select a slightly smaller font size. It automatically loads the current font again, in a size five lines smaller than the current size, and applies that change to the currently selected item.

Because you may have other lines on the page (or on other pages) that still use the original font size, only the currently selected item will be affected.

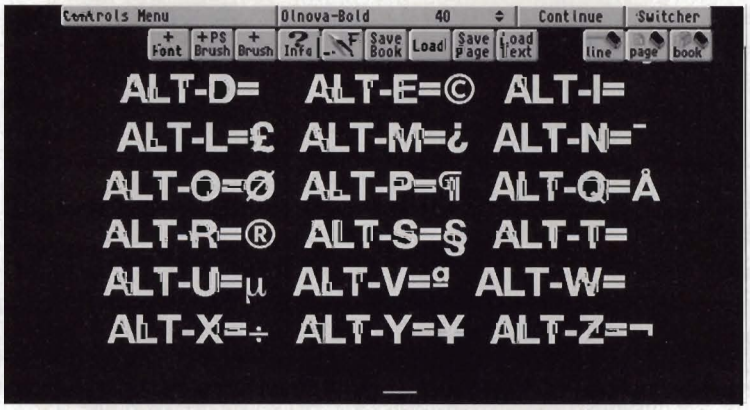
Batch Font (LoadMultipleSizes)

To create the appearance of a large, curved word or phrase, you have to load a font in multiple sizes. Then you need to enter each letter, one at a time, and position it on screen. The LoadMultipleSizes macro saves you some of this work by allowing you to select a font, enter all of the sizes you want in one requester, and then load them, all in one operation! (I love this macro.)

A nice feature of the macro is that you need not worry about how you enter the numbers of your font sizes. The macro ignores any characters that do not belong. So, if you enter 15, x27, 40 1hj75 VTU Toaster 326, you'll get the selected font in sizes 15, 27, 40, 175 and 326. (OK, this example is a little farfetched, but you get the idea. Just enter the numbers you want and don't worry about typos.)



Examples of the SizeDown and SizeUp shortcuts. Each letter was successively sized a bit smaller than the one next to it. Of course, you can size up and down at will in any word or phrase.



A screen shot of the ChartFont macro, which prints a list of all possible Alt and Shift+Alt characters for any PSFont you have.

StartupScript

If you're like me, you have a set of fonts that you use a lot. Especially if you work for a station of any kind, where maintaining a consistent graphic look is an important part of your community identification.

DefaultSettings saves the current list of fonts (and the attribute settings). Every time you enter ToasterCG, start this macro and your preferred working environment will be ready to go.

A variation on this script might also make the final cut. It would allow you to maintain a set of different font lists, for different jobs, that you can load at will.

ASCIIin

When running this script, you can enter an ASCII number and ToasterCG will place the character that corresponds to that ASCII value on screen.

ASCIIout

Select a character on screen and run this script to find out its ASCII value.

Bump lines

Bump lines will insert the same spacing between lines of text. This is most useful for lengthy scroll pages, where extensive work can really foul up your line spacing.

ChartFont

This feature is a lifesaver. How many times have you wanted to find a specific character in a font, such as the copyright symbol? ChartFont will display all of the alternate characters in a given font. And since each font is different, this can come in handy. When run, ChartFont will change to the next page in ToasterCG, ask you to select a font, and then spit out every single alternate character in the font in chart form.

In case the next page is not blank, ChartFont will ask if it can erase the page in order to create its chart. Your best bet is to make sure the next page is blank before running the program.

DOSCommand

This is kind of a specialty item (like the ASCII scripts). It allows you to run an AmigaDOS command from within ToasterCG. Though you will not be

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able to see any results from the command, you can redirect the output to a file. Programmers may find this function more useful than regular users.

RandomAttributes

This script sounds like a waste of time, but it's really not. It will generate random attribute settings for the selected text. Sometimes you get truly ugly results. Other times, you get surprisingly stunning results. When you get them, save them! It's fun to run Random Attributes on a slow day in order to discover some new looks.

SpellChecker

You probably already know about this one.

SavePage

This item is a shortcut for the Save Page button. Since the button is on the second menu of ToasterCG, and I spend most of my time working with

I heartily recommend

the buttons on the first menu, this macro is just a nicety.

SaveAllPages

This script saves all of the pages in ToasterCG as individual pages ready for Flyer use and sequencing. The pages will be named Page.00, Page.01, Page.02, etc., so you will want to go back and rename them appropriately. However, this is a much nicer and faster method for converting all of your prior ToasterCG work into Flyer-ready croutons.

User Beware

Something you should know about the attributes and Boxmaker scripts is that they operate a little differently than your typical macro. Most macros operate in a one-way fashion: you run them and something happens. However, these two types of scripts are actually designed to create entirely separate self-running scripts. You use them to save file descriptions only. Then, to recall those file descriptions, simply run the scripts themselves.

In other words, BoxMaker creates a self-running script that, when invoked later on, will re-create the boxes that

were on the page when you originally used BoxMaker. You don't actually run BoxMaker twice (once to copy the current box settings and once to bring them back). Instead, write the current boxes on screen to a file (for which you provide the filename). Then, to re-create this set of boxes on another page, simply call up the Rexx-launching file requester via the F1 key and select the script whose name represents the box or boxes you want to recall.

The same scenario holds true for the attributes scripts. Each of the save attributes scripts will create a self-running script that contains the attributes at the time you invoked the original script. Running these "child" scripts will bring back the settings.

Here are the two golden rules for these scripts.

1. To save any box or attribute settings (from the screen):

   Use BoxMaker (or any of the "save attributes" scripts).

that you investigate Brookline's Volume Stabilizer.

   To recall any box or attribute settings (to the screen):
2. Run the script itself using the Rexx Launch file requester (F1).

Neat Stuff for Your Flyer

One of my family members has difficulty hearing. When the volume on the television was comfortable for her it was overpowering for the rest of us in the room. Talking on the telephone in the next room was also difficult. We decided to investigate solutions.

So, about 1-1/2 years ago I was looking at those wireless headphone products that allow you to listen to your television from a distance without disturbing those around you. At that time, most of these devices had average sound quality and were uncomfortable to wear for long periods of time.

Then I ran into the representative from Brookline Technologies of Allison Park, Penn., at COMDEX. Brookline manufactures a nifty product called the Volume Stabilizer, a black box that hooks up to your audio connections and regulates the signal that passes through them. The Volume Stabilizer automatically adjusts the volume level of the audio signal, increasing the volume of softer passages and decreasing that of louder ones. The result is a more constant sound level.

But what's cool about this box is that the dynamics of the sound remain. I tried out the Volume Stabilizer on several laserdiscs (favorite films like *Star Wars*, *Terminator* and others) where the volume level leaps about erratically from one moment to the next, and was impressed. The stabilizer did not interfere with surround sound signals, making it a useful device to include in the living room as well the edit suite.

As a doting father, I also wanted to correct the often-poor audio that my camcorder records of my little boy, especially when I record that footage to the Flyer for editing. Children make adorable sounds when they play (it is not all yelling, I have learned), and I found that I could use the stabilizer to "ride the audio levels" and give me more of the sound that I want to hear without blasting my ears when my little guy does shriek. The stabilizer lowers the volume with a very fast attack (0.001 seconds) so that the soundtrack is never deafening.

It also helped on some footage shot around the office for a corporate production for which the audio was improperly recorded. (While I dislike the phrase "We'll fix it in post," sometimes it's all you can do.)

If you find yourself unhappy with the quality of the audio that you've recorded for a production, or if you're looking for a more consistent audio reproduction in your listening/viewing environment, I heartily recommend that you investigate Brookline's Volume Stabilizer. The cost of the box is small enough that you may place several around your home. The three models range from $119.50 to $179.50.

VIO

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FOR INFORMATION CIRCLE 102

TAMING THE WAVE

Fractal Noise

Making Smoke with LightWave

by David Hopkins

I am going to work on a little project this month that will guide you through some LightWave and Modeler features you may not be familiar with. Though this certainly won't directly result in something for your demo reel (the approximate finished product is shown in Figure 1), I hope that you will take the ideas presented and apply them to something interesting of your own. There are several different methods you could use to accomplish what we are going to do, but I'll show you one of the simplest and you can improvise from there. As usual, you'll want to make sure that both LightWave and Modeler are empty before beginning this project.

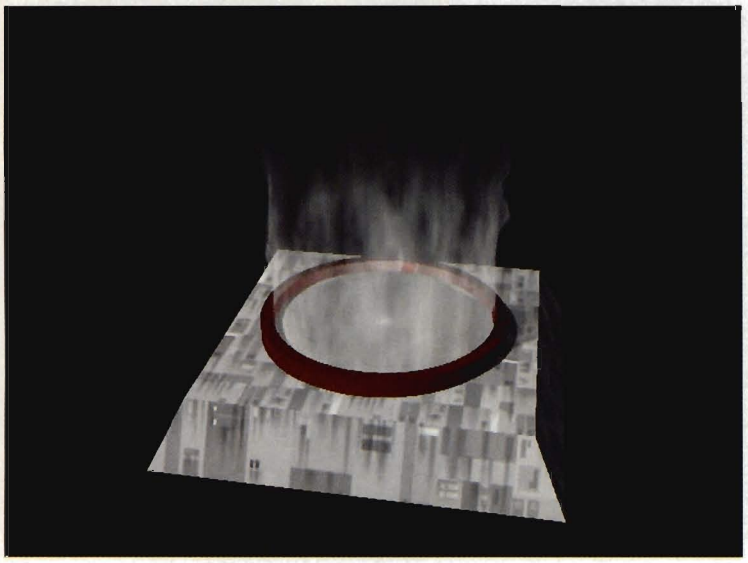

Figure 1

The primary tool that we'll be using for this effect has been in our LightWave arsenal for quite some time—Fractal Noise. I've commented before on how useful this feature is, so now let's put it to work.

Let's start by making an object to serve as the source of our venting steam. Enter Modeler and use the Box tool's Numeric Entry to create a box that has all of its Lows at 0, High Y at 100 cm, and High X and Z at 500 cm. Make the box and then press the (F2) function key to center on one axis. Click X, then do it again with Z, but not Y. We want to keep the base of the little box at Y = 0, where we built it. Press the (a) key to center the object.

Now, in Point Select Mode, choose all four points that make up the base of the box as seen in FACE view1 (they should all be located on the Y = 0 plane). Select the Modify Menu at the top of the screen and then Stretch. Use the Numeric Entry window to make the X and Z factors 1.2 and your box should gain sloped sides.

Switch to Polygon Select Mode and make sure that none are currently selected. Press the (q) key on your keyboard to bring up the Surface requester, change the name to "BaseBoxSides_X" and click "Apply." In the view labeled Face, select the center of the line making up the bottom edge of our box. Click in the same spot in the view labeled Left. What you just did was select all the polygons that had an edge on that ground plane (three in this case), then de-select the polygon facing down, leaving only the two that face along the Z axis. If you didn't follow, read it again...it's not that complicated. With only those two polygons selected, press the (q) key and name these surfaces "BaseBoxSides_Z." Next, de-select those polygons and select only the one facing up in the Face or Left views. Name this surface "BaseBoxTop_Y."

Go to layer 2 and put layer 1 in the background (keys: 2, then Alt-1). Make a box here with X Low = -2 m, Y Low = 1 m, Z Low = 0 and X High = -1.8 m, Y High = 1.3 m, Z High = 0. This creates a small, flat rectangle near the negative X edge of our original box top (Figure 2). Select the Lathe Tool from the Multiply menu and press (n) for the Numeric panel. Leave the Start and End Angle alone, change the Sides to 48 and the Axis to Y, and make sure that the Centers all read 0. Click OK. A ring appears on top of our box. This serves as the "mouth" of the steam vent. At the moment, however, all of the polygons in the ring face the wrong way (verify this by clicking on a few and checking which way the normals, or dotted lines, face). With no polygons selected, press the (f) key to Flip them around. This happens every now and then when creating objects with lathing, so make sure you always check!

Switch the Select Mode to Exclusive Volume and drag out a box in the Face view that encloses the bottom row of points. Make sure that the Volume box encloses the entire ring in the Top view, then click Cut. What was that? Now we are rid of all of the polygons that face downward along the bottom of the ring. Since we're never going to see them, it is silly to waste memory on them. Exclusive Mode only affects the polygons that are completely within the Volume. In this case, the only polygons fitting that description are those on the ring's bottom side, so they're the only ones that vanish. Pretty cool, eh?

Now, with the Volume box still set the way it was, change the Volume Mode to Inclusive. Press the (q) key, name the surface "BaseRingSides_Smooth" and click Apply. Make the Volume box go away by clicking in an unoccupied section of the control panel, switch to Polygon Select Mode, and press the (w) key to bring up the Polygon Statistics panel.

Click and hold on the pop-up list near the bottom of this panel. You'll notice that there are 96 polygons named "BaseRingSides_Smooth," but there are also 48 polygons named something else (probably BaseBoxSides_Z). Choose those, then click the (+) button just above and to the left of the pop-up. Look at that—all the polygons that face up off the top of the ring are now selected. Press the (q) key and name these polygons "BaseRingTop_Flat."

Here comes another fun part. Switch back to Point Select Mode and, using the right mouse button, draw a lasso around all the centermost points of the ring in the Top view. Provided you did this correctly, you should have 96 points selected. In the Face view, carefully de-select only the bottom row of selected points. (Note that you are allowed to zoom in or out to make your work easier.) You should have 48 points still selected (Figure 3). Click Copy, go to layer 3, and Paste. Now, starting at the 12-o'clock position in the Top view, select each point in clockwise order until you have them all. Press the (p) key on your keyboard to make a polygon.

Switch back to Polygon Mode, select the polygon, and use Move to drag the new disc -20 cm along the Y axis. Keep in mind that this is a Move distance, not a physical location. Press the (q) key to name this polygon "DiscFloor_Y." Hold Shift and click on layers 1, 2 and 3 to make them all Active. Export this object as "SmokeMachineBase.lwob."

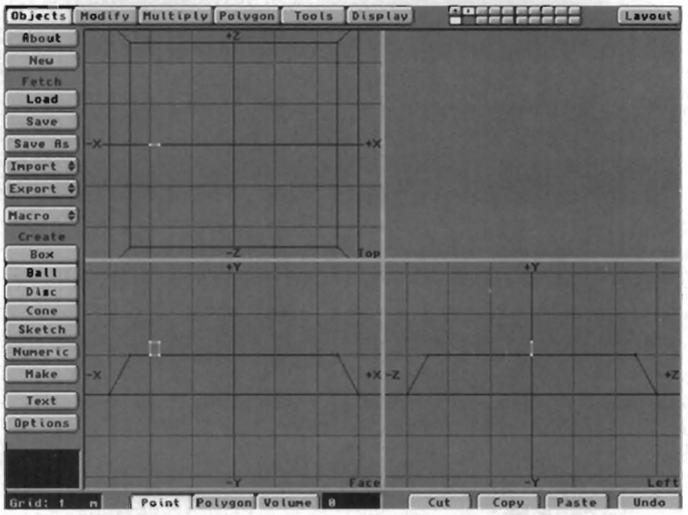

Figure 2

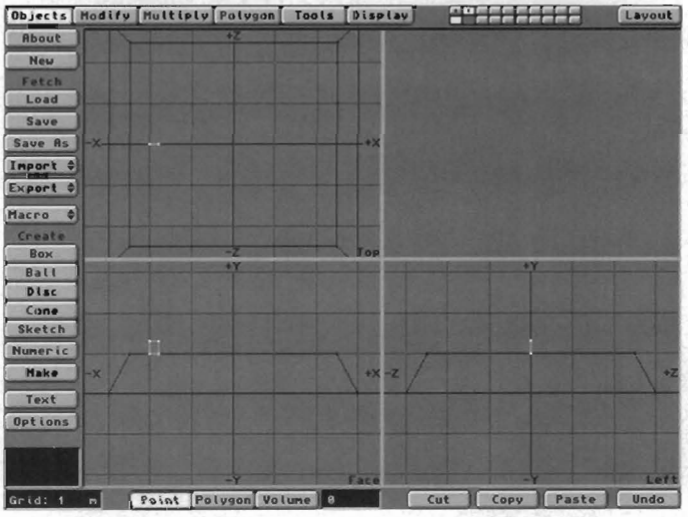

Figure 3

Blowing Smoke

Now that we've built the smoker, we need to make some smoke. This is an easy byproduct of what we just built. Begin by making only layer 3 active with 1 and 2 in the background and choose Extrude from the Modify menu. Click anywhere in the Top view and you'll see the Extrusion T-bar appear in the other two views. Press the (<) key a few times to zoom out. Grab the T in one of the other views and drag it up until the Y distance = 4 meters. Press the (n) key to bring up the Numeric panel and set the Segments to 8, then make it. These polygons will face inward, so press the (f) key to flip them.

In Polygon Select Mode, select only the polygon at the top of the tube and the polygon facing down at the bottom of the tube (the Face view is a good place to do this). Press the (a) key, if necessary, to center the object. When you have only those two polygons selected, cut them. From the Polygon menu, click Triple. This action will break all of the polygons in this tube down into triangles. It will increase the polygon count seriously, but it'll also allow us to later use displacement mapping in LightWave. With no polygons selected, press (q) to name the surface "Smoke" and Export the object as "SmokeStream.lwob."

That's all for the construction phase of the project. I hope you learned a couple of new things from it, but let's get back on track....

Travel back into LightWave and we should find both our Smoker and smoke in Layout, in their correct positions. The first thing to do is give the smoke a convincing look. Locate the Smoke surface in the Surfaces panel and set the Transparency level to 100%. Click on the (T) to the right of the Transparency option to place a Transparency texture. Choose Fractal Noise and set the Texture Size to X = 0.4, Y = 1, Z = 0.4. This creates "streaks" along the vertical (Y) axis that are less transparent than the main body of the object.

Set the Texture Falloff to X = 0, Y = 21, Z = 0. This will cause the streaks that we just created with the Transparency Texture to become increasingly faint until they are no longer visible as the texture nears the "top" of our smoke. This works because the primary Transparency setting is 100% (on the main panel, remember?) and the streaks are applied to it. If we apply progressively less of the streaks as we proceed up the smoke object, it'll be left transparent.

Texture Velocity is also important for this effect. We want the white streaks (representing the smoke itself) to travel upward, as smoke really would. Rather than moving the object and creating all kinds of nightmares for ourselves, we can make the texture itself move. The velocity you'll want to move the smoke at depends on your own taste,

but try setting the Velocity to X = 0, Y = .65, Z = 0 (we only want it affected in the vertical direction, right?).

Make sure that the Texture Value is at 50% and the Contrast at .85; the Frequencies can remain at 3. If you want the smoke to be thicker, turn up the Texture Value. For a more intricate smoke pattern (and longer rendering time), turn up the Frequencies. To make the streaks stand out more, increase the Contrast. For now, however, leave them the way I described and click "Use Texture."

To the right of the Transparency option is a button marked "Color Filter." Turn this on so that the things you see through the smoke (whatever they may be) are lightened as the smoke passes.

While we're in this area, set the Edge Transparency to Transparent and the Edge Threshold to .2. This prevents the smoke from having a "hard" edge. The Threshold is determined by asking the question, "What percentage of the surface will be 'transparent' from the edge?" A figure such as .2 means that 20 percent of the polygon will be affected; 1.0 would mean the entire polygon.

Turn on Smoothing and Double-Sided. Smoothing is obvious, but why Double-Sided? You want to be able to see more smoke through the closest wall of it. Since there is another layer of smoke (the back side of the object), we may as well use it, but it faces away from the viewer. Double-Sided takes care of that problem easily.

Now, go back up to the Luminosity setting at the top of the Surfaces Screen, make sure it is set to 0%, then click the associated Texture button to the right. Again, Fractal Noise is in demand. Texture Size should be X = .25, Y = 3.5, Z = .25. These numbers serve the same purpose as those we used earlier—streaks along the Y axis—but these streaks will represent brightness. The values are set a little different to make the surface of the smoke more complex and less "predictable."

We'll use Texture Velocity in the same way as we did in the Transparency Texture, but we don't need to have Falloff for this. Of course, you could if you wanted to, but set things up this way first and then you can go back and adjust them as you like later. Set the Velocity to X = 0, Y = 1.5, Z = 0. Texture Value should be approximately 80%, Frequencies at 4 and Contrast at .9. Remember, the higher the Contrast, the sharper the edge between texture (brightness) and surface (brightness).

So, now you've got smoke. The only problem with it is that it's boring. The vapor moves up a straight cylindrical path defined by our object shape. It's not very convincing. Let's add some object variation.

Puff the Magic Object

Select the Object panel along the top of the Layout screen and locate the Displacement Map Texture button (about midway down the screen on the right). Click on it.

Remember when we used the Triple function in Modeler to break the smoke cylinder up into lots of polygons? Here's the reason why. We're going to use LightWave's Displacement abilities to change the shape of the polygon, but it is very important to keep your polygons planar at all times. Triangles are always planar, so we tripled all of the polygons into triangles.

Use ripples as the texture type. Set the Texture Size to X = 1, Y = 1, Z = 1. Texture Falloff is going to be X = 0, Y = 35, Z = 0. This is going to cause the rippling we're applying to lessen as it travels away from the Texture Center. Ideally, the ripples should be concentrated near the top of the smoke and sparse by the bottom. In other words, our Texture Center needs to be near the top of the smoke instead of at the 0,0,0 point where textures are normally centered. Set the Texture Center to X = 0, Y = 4, Z = 0.

Texture Amplitude should be .1, Wave Sources at 3, Wavelength at .5 and Wave Speed at 0.025. These values may be changed to your liking later, but take a look at it this way first. Use Texture.

Go ahead and render out a short patch of this animation, pausing to Save All Objects and Save Scene beforehand, of course. You'll probably want to apply surfaces you like to the Smoker Base that we created for a more finished image. As I said at the beginning of this column, the end result of this project isn't a finished animation by any means, but it should give you plenty of ideas for further experimentation. You might try using a Bone or two in the smoke object itself and have it bend and twist the smoke path. Try coloring the smoke, or even add another smoke stream with a different surface name and values.

That's about it for this month. Before I go, however, I want to explain that all of the values I've given you along the way were determined primarily by setting and rendering. This is the real secret to expanding your LightWave expertise: spend plenty of time playing with parts you haven't played with before so that you can get the feel of their operation.

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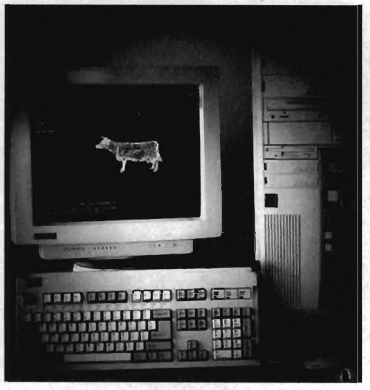
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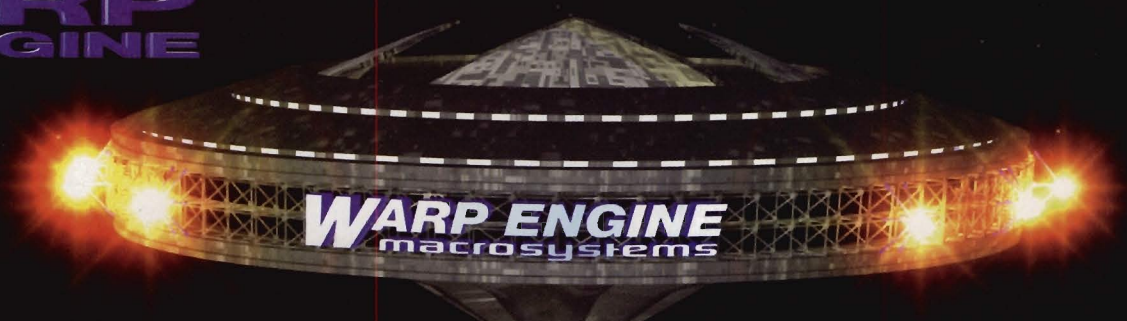

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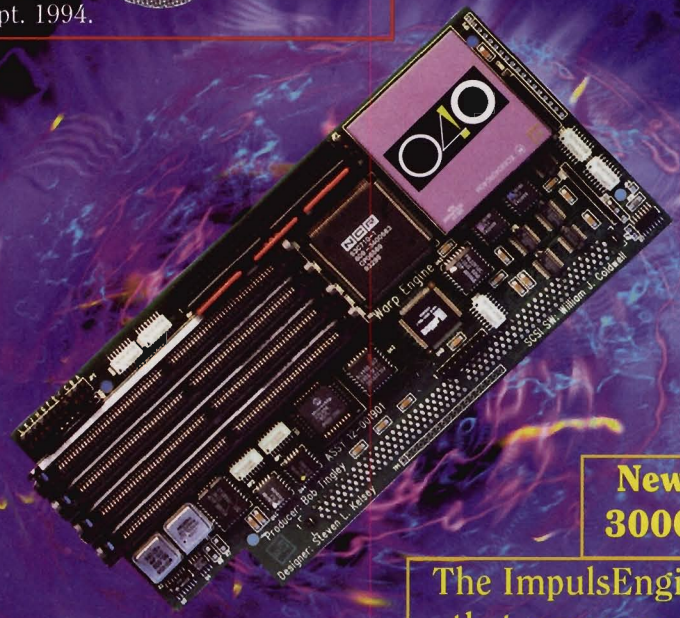

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FOR INFORMATION CIRCLE 128

CYBERSPACE

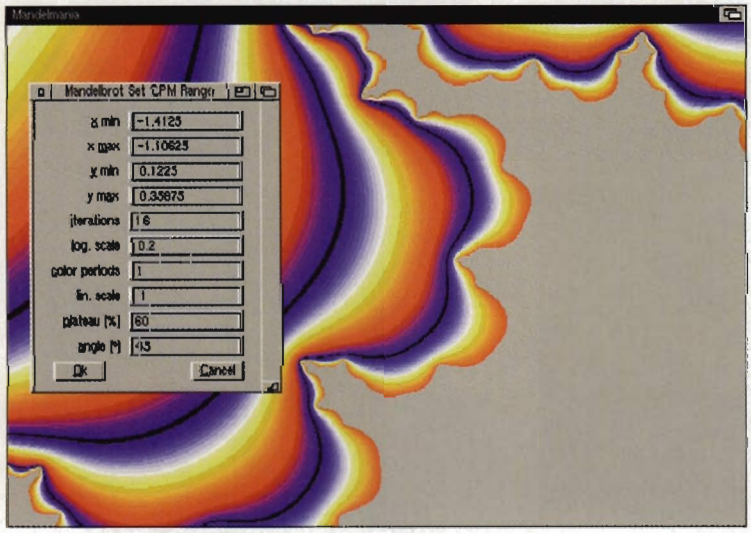
Picture Maker

Real Art vs. Computer-Created Images

by Geoffrey Williams

Is a still life of a bowl of fruit that looks photorealistic really art? Is there really any creativity involved? What about a photo of a bowl of fruit that is processed through a computer to look as if it is composed of brush strokes? Is that art?

I remember not very long ago when the argument was made that any image produced on a computer is not art. Of course, now there are many fine artists using computers, and there is little question that true art can be created this way. The question remains in many minds, though, where to draw the line with images formed solely by the computer. It would be hard to imagine calling a Scenery Animator landscape made from fractal art anything more than a random generation of colors. It may look great, but creativity is not involved.



Explore a universe of Mandelbrot images with Zehnder's Mandelmania.

I doubt that computers will be called artists anytime soon, but they are still powerful tools for constructing elements that can be used in artistic images. The image created by the machine is not art, but the way that image is incorporated into a greater vision can be.

Computers are great at taking away the drudgery of building images without robbing creativity. Artists can now make images that simply cannot be done with any other medium. This month we'll look at a number of tools that can help to create interesting images with very little effort. These images can be used as backdrops for video titling or 3D graphics, as 3D wraps, or in any number of ways that your imagination may come up with. With many of them, it's just fun to see what the computer comes up with.

Screen Grabbers

There are tons of public domain programs that can create random computer-generated images. Oddly enough, not all of them offer an actual way to save the image so that you can actually use it for anything. Seems rather dumb, but there is an easy way around this problem: using a screen grabber. These handy little utilities allow you to either save the entire front screen as a file or cut out a section of it and save that. A software reviewer's best friend and one of the easiest and most reliable programs of this type is Bernstein Zirkel Softworks' GrabIFF. GrabIFF, which works fine under AGA, lets you assign hot key combinations to do the screen grabs. It acts just like a standard commodity. The default keys allow you to press left Ctrl, left space bar, left Amiga to bring up crosshairs to cut out a rectangle. GrabIFF can even save a screen that has no windows on it. You have the choice of just saving the grabs to RAM as sequentially numbered files, or you can have a file requester pop up each time.

If you are willing to give up the ability to cut areas but want to be able to save screens in any AGA format (including things such as NTSC-Super-Hires), then Steve Hines' QuickGrab may be a better choice. It will save almost anything, including the troublesome interleaved bitmaps. It also has a save delay adjustable between one and 99 seconds. This way, you can even save a screen with the pull-down menu pulled down. It has a nice interface that lets you adjust its basic setting, such as the defined hot key, basename and location of the saved screens.

Fractal Tools

One of the most interesting ways that computers create images is through the use of fractals, and one of the most amazing examples of fractal art is something known as the Mandelbrot Set. It is possible to visually explore this simple mathematical formula only because of the lightning speed of modern computers able to rapidly do millions of iterations.

The Mandelbrot set, discovered by Benoit Mandelbrot and introduced into the world in 1980, uses a simple formula to generate an endless number of images. There is literally not enough time in the universe to explore all of the possible imagery the Mandelbrot Set can generate. You can zoom in forever on a Mandelbrot image and there will always be more detail to discover.

Both the mathematically and the artistically inclined have been fascinated by this seemingly simple image. There have been hundreds of articles and books writ-

ten about the Mandelbrot set, and Arthur C. Clarke (using the Amiga to create his images) even featured them in his science-fiction novel "Ghost From the Grand Banks."

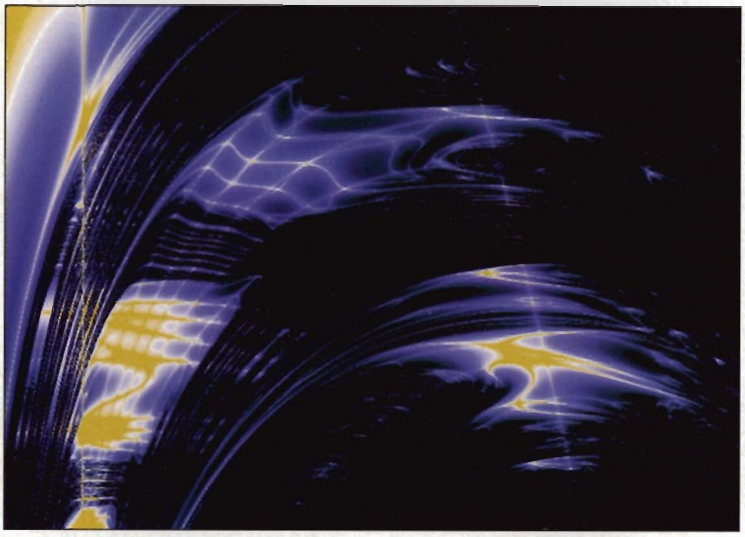
The formula for the Mandelbrot set is astonishingly simple:

$Z = z^2 + c$

Both z and c are complex numbers, and the location of each individual pixel is used as the initial value of z. The value of c is derived from each pixel's location.

Through repeated iterations of squaring and adding, a complex, endless world can be visualized. Mathematically, the Mandelbrot set is so simple that only multiplication and addition are required, but it would be impossible to deal with without computers because there is so much multiplication and addition and the numbers quickly become quite large.

There are tons of public domain Mandelbrot programs available for the Amiga. One that I like is called MandelMania, by Markus Zehnder. It lets you explore both the Mandelbrot set and the Julia set. In the Julia set, the value of c is derived from a constant used throughout the entire image. It also allows you to explore Lyapunov space, but the Lyapunovia program following this one does a much better job. It's very fast (a key consideration for any Mandelbrot program) and has AGA 256-color support. It has a scalable output window and color cycling. With its full ARexx interface, you can also create animations with ease. You should be able to get right down to playing with it, which can't be said for all Mandelbrot programs. It can even produce 3D Mandelbrots that make the images look like fantastic craters and mountains. There are more powerful and flexible utilities, but you'd be hard pressed to find one faster or easier to use.



Zoom through the alternate worlds of Lyapunovian space with Juul's Lyapunovia.

Organic-looking images are easily generated with Glen Software's IFSOut.

Rendering images in Lyapunov Space lets you zoom in on endless worlds, just as in the Mandelbrot Set, but the images are strikingly different. Jesper Juul's Lyapunovia is one of the best utilities I have seen for generating these types of images. The author's documentation provides a pretty good explanation of how these images differ from other fractals. This program also outputs 24-bit images, which obviously makes a big difference in the quality of the output.

More Mathematics Art

Iterated Function Sets are a complex association of mathematical functions that create an amazing array of imagery. Basically, they define transformations on a Cartesian space, but you don't need to understand how the math works to construct fascinating and organic-looking images. IFSOut was released by Glen Software Company, and is the best implementation of IFS that I have found. Included is a large selection of preset numbers, and I think you will enjoy seeing some of the many patterns IFSOut can create. The interface is a little unusual when manipulating the settings, since it requires moving and rotating squares to produce different results, but I think it is quite fascinating. It also has some other more intuitive options for manipulating the settings. The images tend to look like real-world objects such as ferns, bushes, trees, shells and flowers.

Scene Generators

The commercial program Scenery Animator, along with Vista Pro and World Construction Set, is an amazing example of the power of fractals to generate realistic scenery. It all began with a little public domain program called Scenery, which can still be found on the boards. This early version of Scenery Animator shows that software's incredible potential, and it was quite amazing when it first came out. If you have not played with any of the fractal scenery programs, you might enjoy giving this one a try. It creates fractal mountains and lakes based on a random number seed and various parameters you set from the pull-down menus. Taller mountains will be capped with snow and foothills will be dotted by trees. Considering that it uses standard Amiga resolutions, you can get some pretty good-looking pictures, though they are nowhere near the quality of the commercial programs (especially the near-photorealistic scenes I have seen generated by World Construction Set).

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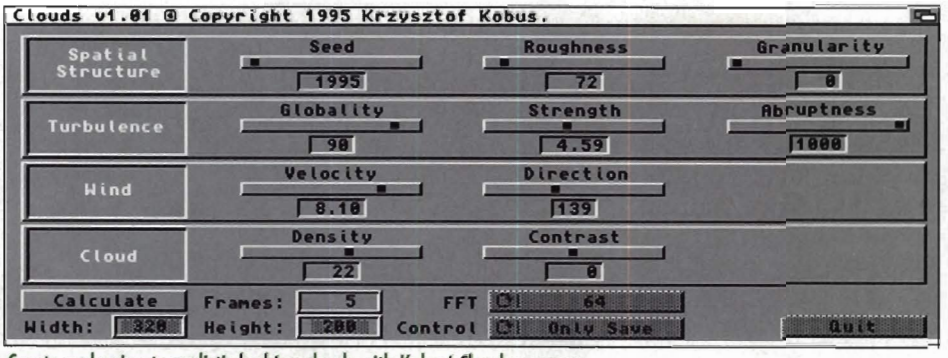
Krzysztof Kobus wrote Clouds to provide a visual modeling environment for the realistic animation of this object's turbulent motion. Using spectral synthesis, it lets you control a wide range of cloud characteristics. You can set a random seed and the cloud roughness, granularity, density and contrast. You can set the globality, strength and roughness of the turbulence. You have control over the wind direction and velocity. This program can generate all kinds of clouds, gases and mists. You can use these stills or animations as backgrounds, textures in 3D programs or as alpha channel information. Clouds takes advantage of AGA (256 colors) and ARexx. It is significantly different from many of the other cloud generators for the Amiga I have found. Besides the addition of animation, it also makes very realistic-looking clouds of much better quality than anything I have seen in a shareware product.



Create and animate realistic-looking clouds with Kobus' Clouds program.

Sympat by Ralph Rapoport generates a series of patterns that look great wrapped around spheres and other shapes. Each pattern is in a square, and they could be used as tiles, stained glass windows, gift wrap, or anything else your imagination calls to mind. It generates a new pattern every two seconds. Just wait until you see a pattern you like, then grab it with the screen grabber.

This next one is primarily just for fun. It brings back to me many pleasant rainy day memories from childhood, when the Spirograph toy would come out of the closet and I'd spend hours whirling the little wheel within the larger wheel to create endless intricate patterns.

The only downside was that, with amazing frequency, one of the pins holding the wheel to the paper would pull free just as I was finishing my final whirls, allowing the pen to streak across the page and ruin the picture. Charles E. Kenney has put an end to that anguish with his SpiroDraw, which never slips off the pins and draws much faster than I ever could. Sliders let you set the size of the wheels and their relationship. There are lots of other controls, so you can play with it for hours to create endless Spirography drawings.

A lot of the utilities out there aren't all that practical but are fun to watch as they generate images. Jerry Kallaus' Klide draws endless animated designs, completely changing with each mouse click. Neil Hickox's MultiLine and Chris Bailey's Superlines are both variations of the most classic computer-generated image, the line patterns that were probably the first graphics patterns computers generated. Both provide a lot of control over different aspects to produce endless eye candy.

Internet surfers, I finally found the first and currently only ftp site dedicated to LightWave users. It has directories dedicated to ARexx, framestores, maps, objects, scenes, textures, tips and utilities. The address is tomahawk.welch.jhu.edu. Once you have logged in as an anonymous user and used your e-mail address as a password, cd to pub/lw to get to the official LightWave ftp site.

Thanks to Phil South for letting me know about this. I always appreciate it when readers let me know about cool stuff so that I can pass it on.

As usual, if you don't want to spend your time hunting these down, I've put everything covered this month on a disk that you can have for just $5. Send it along to Geoffrey Williams, Picture Maker Disk Offer, 1833 Verdugo Vista Drive, Glendale, CA 91208.

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FOR INFORMATION CIRCLE 134

From the Hollywood High School

How to Plan, Set Up and Survive a Live Presentation

Palladium to the Auditorium

by Joe Clasen and Susan Ishida

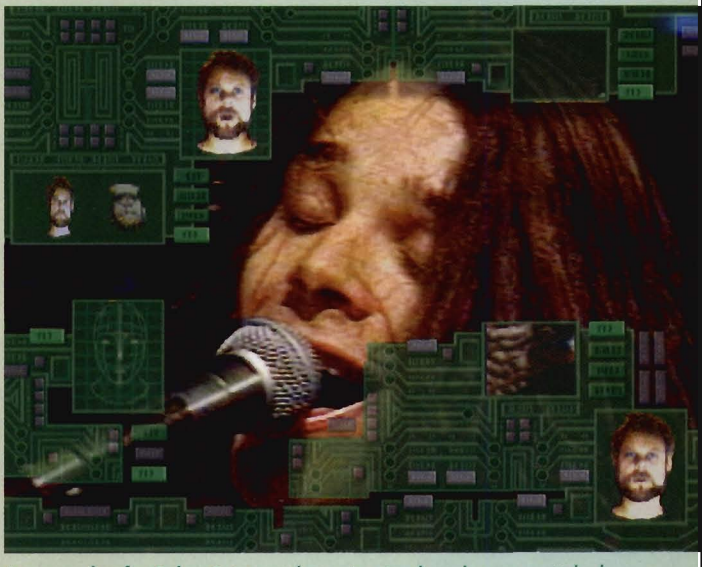
Your throat is dry. Your palms are clammy. You're queasy with anxiety, yet giddy as a kid on Christmas morning. Welcome to the thrill ride of live presentations. Luckily, you have a Video Toaster. That, plus a little knowledge, a lot of preparation and a roll of Tums, just might save you. You may even have fun.

You've Got the Tools

NewTek's Video Toaster within an Amiga computer continues to be an extremely powerful, yet underutilized personal video production tool for jobs beyond the edit bay and animation studio. Add a few graphics programs, a handful of cables, adapters and duct tape and you have a portable studio capable of providing switching, titling, animation and video effects. Add a VCR and some pre-recorded material, a DPS Personal Animation Recorder with your pre-rendered LightWave 3D anims, a video camera for instant image captures and a second Amiga (with a Toaster if you have another) as an extra input for graphics and animation, and you have, so to speak, a fully functional Death Star. Now, before you go off to conquer the galaxy, remember that having the right equipment is only half the battle. You need to know what kind of battle you're facing.

A Little Knowledge

Knowing what to expect and planning for all possibilities can prevent many ugly and embarrassing scenes. The first step is to meet with your client to find out what the presentation involves and what your responsibilities will be. If this is a small job, you may be a one-person show, providing all equipment, technical support and even content (e.g., a product demonstration at a trade show or a commemorative video at a wedding reception). Though not always glamorous, small-scale presentations often provide greater creative freedom and personal control.



An example of a DeluxePaint overlay animation keyed over a switched live camera. The song was about being trapped in a computer. For reference, the buttons move and flash and the head spins and morphs.

An elaborate, high-budget show may require you to become part of a large crew. There should be a director and possibly a technical director (TD) who will "call" the show (as in "call the shots"). Hopefully, you'll be given a highly detailed script that will include

all your technical cues. This is your "show book." Big shows provide the opportunity for your work to be seen in a high-profile situation. Play your business cards right and you can form valuable working relationships and acquire new clients. On the downside, you may feel like a small fish in a big pond. Just remember, sometimes the small fish are the most dazzling.

The Walk-Through

The next step is to visit the site of your presentation, ideally with your client and TD. Bring a video camera and keep video and sound running. As you walk through the event site, note the location of the stage or presentation areas. Decide where you and the rest of the support crew, if any, will set up. Shoot footage of the stage from your setup area as well as from the audience area. Note where and how you'll be tapping into the electrical system. Record your client's comments and requests as well as your own observations (e.g., what is the state of the house audio system, lighting, electrical setup?). This is also the ideal time to find out what the facility will and won't provide. Whenever in doubt, supply it yourself.

Paper Chasing

Whatever the size of the job, it is absolutely critical to determine exactly what your job is and what you agree to provide. If you will be creating graphics or video, now is the time to request any material you'll need from your client (logos, photos, video, etc.). Small companies are notorious for providing the worst source material. Don't be surprised if you're asked to scan a logo from a crumpled newsletter or a bent matchbook cover. Think of it as a challenge. Even huge corporations can leave you in logo limbo.

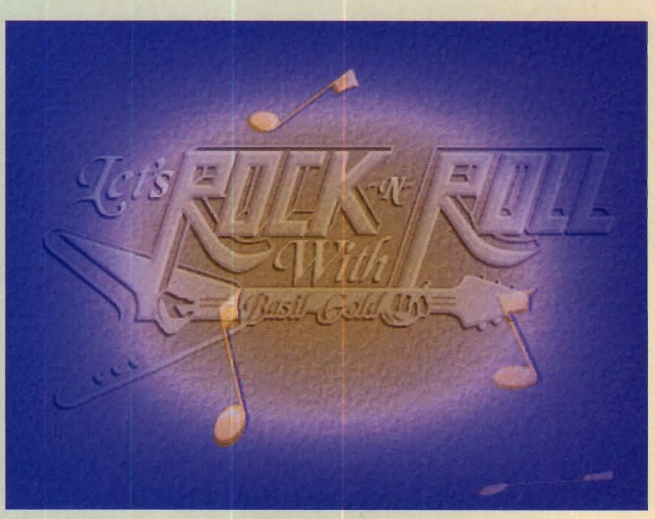
We did several LightWave 3D animations for the Carl Karcher Enterprises (Carl's Jr. restaurants) annual awards ceremony. Due to the slow wheels of big business, we ended up having to scan their Happy Star from a dismantled beverage cup we bought at the local drive-thru. We've also had to scan a major radio station's logo from a refrigerator magnet and reconstruct an aerospace company's logo from the back of a sweatshirt. It pays to be flexible.

Speaking of payment, let's talk about money. We can't tell you what to charge because every job and every client is different. We can tell you that you must get everything in writing, including what services and equipment you are providing, what you will be paid, terms of delivery and terms of payment. For payment agreements, we use the fifty-fifty method for live shows. Fifty percent is paid up front and fifty percent is paid when the job is completed. For animation we divide fees into thirds. One-third is paid up front, one-third upon client approval of wireframe and object previews and one-third upon delivery of the finished animation.

If you're doing a corporate presentation or a product demonstration, you may need to supply hardcopy handouts. If the budget allows it, use color. For impressive photographic prints, we use the Fargo Primera printer in dye sublimation mode. LightWave screens print beautifully. While it is somewhat expensive and time-consuming to print a dye sub page (three dollars and 15 minutes), they reproduce very well on a high-end color copier. Many office supply stores and copy centers such as Kinko's can provide fast and fairly inexpensive color copies, which make great handouts, particularly if you only need a small volume. Color copiers will also produce transparencies for overhead projectors, but we suggest sticking with Toaster framestores and the Switcher for slide show presentations. For graphs, charts and other graphics, the Epson Stylus Color printer does a wonderful job for just pennies per page.

For a particularly impressive handout, consider a combination of color hard copies and videotape. Tapes are inexpensive to duplicate and allow your audience to have a pre-recorded portion of your presentation to review later and show to others. This can be a great sales tool for product demonstrations, proposals and other business and sales applications. Tapes also make nice gifts for guests at weddings and great handouts for tutorials, training sessions and other types of classes.

A typical piece of scrap art used to make a logo.



The completed logo was cleaned up in ADPro and DPaint.

A frame from a PAR-recorded LightWave animation for the Carl Karcher annual awards show. The Happy Star logo was scanned from a dismantled cup, taken into Brilliance and rotated 360 degrees in 60 frames.

The final frame of the CKE annual awards show with the rotating stars on the film dissolved out.

This logo was made from a video scan of the company sweatshirt. It was taken into ADPro, reduced to two colors and cleaned up in DPaint, then modeled, rendered and animated in LightWave.

Is It Live?

Creating dazzling graphics in real time is clearly one of the Video Toaster's great strengths. Even so, you should try to prepare as much of your graphics as possible in advance. Not only will you spare yourself grief, you will simply have time to do a better job. There are two great problems you'll face doing a live presentation. The first is the limitation of time. No matter how good you and your equipment are, you can only do so much in real time. The second problem is that during a live presentation, things can go wrong—really wrong. You can reduce these difficulties by minimizing how "live" your presentation is. Incorporating pre-produced or "canned" material into your live show can provide a bulletproof part of the presentation, a part that (almost) can't go wrong. This can be anything from a simple videotaped product demonstration to a lavishly produced video edited on your Video Toaster Flyer. In your studio, in advance, you'll have the luxury of adding music and animation, editing out mistakes and ensuring a high level of quality. Some things, like the announcements of awards, need to be kept live enough to be flexible. Many things, however, can and should be created beforehand. This is the time to decide what can be prepared in advance and to start rehearsing everything you'll need to do live.

Making Your Move

Packing for a live show is not like packing for a tropical vacation. This is no time to travel light. If you might need it, bring it. We have made friends and won clients by simply having the right cable or adapter. We once dug into our odds-and-ends box and came up with the one widget Sony needed to connect their JumboTron truck to the Anaheim Convention Center's video wall and, luckily, to our Toaster.

During live shows, a lot of equipment tends to drift and get exchanged. That's why we believe in labels. We buy large, inexpensive rolls of labels preprinted with our company name, address and phone number. We stick them on everything from monitors to mice. This practice isn't intended to prevent theft, it just makes it much easier, at the end of a show, to figure out what is and isn't ours. In a pinch, the labels also function as sticky little business cards. When the guy from Sony thanks you for saving his job with your adapter, let him keep the adapter with your label stuck to it. He'll think favorably of you every time he uses it, and if he ever needs Toaster support, he'll know who and where to call. We also suggest you bring real business cards as well as a couple of copies of your demo reel. A job well done will often lead to your next job.

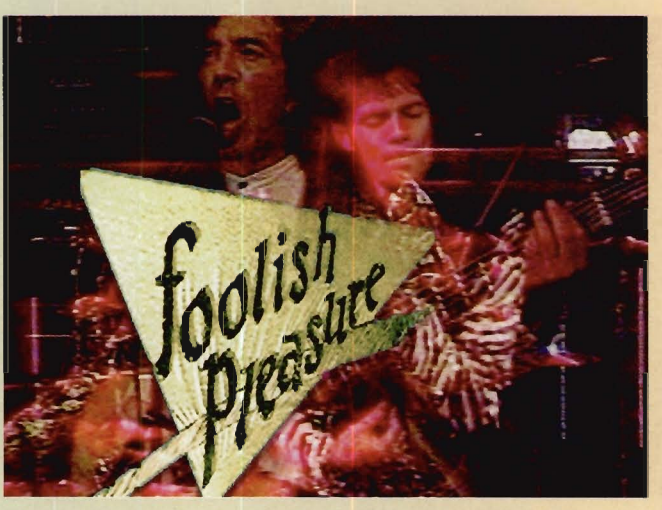
Before unplugging anything, make a diagram of your existing equipment setup. Indicate which cables go where and color code both the diagram and the actual cables. Electrical wholesale houses sell "phasing tape," electrician's black tape that comes in many colors besides black. Stage supply houses also sell a similar product called "spike tape." Next, make a diagram of the setup configuration you plan to use for your live presentation. Make sure you have all the cables and connectors your plan requires. If you're reluctant to use tape because of the sticky residue it can leave, buy a bottle of CitriSolv. It's a

cleanser and solvent made from orange peels, and it removes adhesive residue incredibly well without doing the kind of damage acetone can. That's our household tip. Our professional tip is this: If you have any doubts about your ability to set up your equipment, rehearse setting up your system in the configuration you'll be using for the presentation.

Hitting the Road, Maybe Literally

How elaborately you need to pack and protect your equipment depends on how you plan to move it. If your hardware is going by airplane or facing other unknown hazards, you must have sturdy, professional road cases. Anvil and several other companies make a wide variety of cases built specifically for transporting delicate equipment. They will also make custom cases. Airlines, and specifically airline workers, can be tough on computers. If possible, carefully pack your CPU and carry it with you on the plane. Amiga 1200s are very portable and can be stowed in a padded carry-on bag. This may all sound paranoid, but having experienced the thrill of having critical equipment dropped from the back of a plane, we tend to be cautious.

A half-switched frame from a live video shoot with a LightWave-rendered Hollywood sign and a smokin' heavy metal band.



The spinning animation of the Foolish Pleasure logo was scanned and animated in DPaint during a live video shoot.

If you're traveling by car and handling your equipment yourself, you may not need full road cases, but you still need to protect your hardware. A wide variety of sturdy plastic storage containers is available at discount stores everywhere. Make sure they have lids and are stackable. Buy them in a size large enough that the cases can be padded inside with foam. One case should contain every cable, adapter and connector you can get your hands on. To transport the cases you should have a collapsible utility cart. Warehouse home centers sell them for approximately $30—less than a trip to the chiropractor.

Our storage containers would probably contain the following: an Amiga 4000 with a Video Toaster, TBC and PAR, a second computer (either an Amiga 1200 or an Amiga with a second Toaster), a video projector, camcorder, tripod, monitors and VCR. We'd also have our cable, connector, adapter box and some basic tools. We might also bring a CD-ROM drive for data and music. If you're providing sound support with video playback, try to get a system with a mixer and amplifier in one unit. Speakers should be compact and elevated off the floor. If you're using wireless microphones, always use fresh batteries and absolutely always pack a wired microphone as a backup.

If there's going to be a crew, you will need to communicate. Rent a wired headset system (e.g., ClearCom or RTS). Use walkie talkies only as a last resort. Headsets allow you to communicate even in extremely loud situations where walkie talkies are useless. We've worked music video shoots where sound levels were so high that headsets had to be used even to talk to people at arm's length. Because a live show is a fluid creature, instant and constant communication is critical.

When deciding on software, use only what you are comfortable with. Avoid making major hardware or software changes right before a big show or an important deadline. If you must upgrade, give yourself time to become familiar with the changes. With a live audience watching, you don't want to fumble with the names of your new hard drive partitions or struggle to recall new keyboard commands. We always seem to use DeluxePaint (DPaint) at live shows. It doesn't look as cool as Alpha Paint and the animations pale next to our LightWave 3D anims, but in a live situation it can be unbelievably handy.

Once, during a live music video shoot for a band called Foolish Pleasure, we grabbed our camcorder and captured a shot of a large, sculptural sign hanging over the stage, bearing the band's name. We raced back to the Toaster, grabbed the image as a framestore and used Art Department Professional to convert it to a 256-color hi-res IFF, which we transferred to our Amiga 1200. As the band began to play, we used the Toaster to key titles over

the band, while on the 1200 we quickly set up 60 blank animation frames in DPaint. Using the Foolish Pleasure sign as a brush, we placed it in the center of the screen, set the Move Requester to 360 degrees on the Y rotation axis and let DPaint draw the 60-frame rotation. Near the end of the song, the animation was ready. We pressed (4) on the keyboard to loop the animation and let the Toaster key the rotating sign over the live video to close the song. Instant animation. As they used to say, only Amiga makes it possible. We used DPaint at the Hollywood Palladium, where, during a brief dinner break, we made a half-dozen different animations ranging from a roller-skating carhop to a morphing poodle. For creating non-animated, video-friendly images, it's hard to beat Alpha Paint. We also rely on ADPro, DiskMaster, and good teamwork.

The Eleventh Hour

Thanks to your careful packing, your equipment has arrived in perfect condition. With the help of your color-coded diagram, you've set up your system in record time. You had to work through dinner and you missed the catered meal set out for the crew, but luckily you had the foresight to pack some bottled water and a few granola bars. If you're responsible for sound, it's time for you to do a sound check. Check the sound levels from wherever the audience will be. On your mixer and on your script, mark the levels that need to be adjusted. Adjust them before, not during, the event. Run the show's sound in mono and use the second amplified channel to provide monitor speakers for the performers or presenters. Fix any last-minute problems that may surface during rehearsal. Remain calm.

It's Showtime!

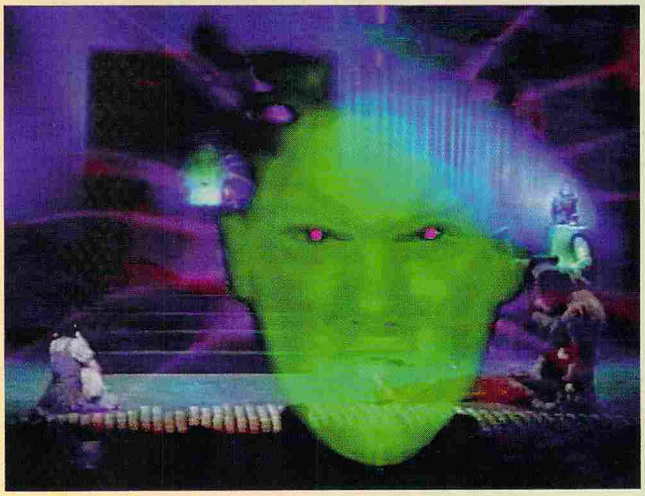
At this point, all we can say is, don't panic. Be alert, be flexible and just don't panic, particularly when you experience a complete power failure in mid-show. This actually happened to us at an awards ceremony held at a very nice hotel. Hotels, however nice, are notorious for inadequate AC. Although a complete power failure is a little unusual, common power bumps and dips can cause computers to crash at unfortunate moments. One way to prevent this is to use an uninterruptable power supply that uses batteries to provide power for several minutes until you find the circuit breaker. Another tip is to grab an extension cord and some tape and plug your system into a separate electrical circuit from the sound and lighting equipment. Try to keep the distance less than 100 feet. If you're in a hotel, try to use one of the kitchen's many circuits.

So what do you do if the lights go out? First, get sound running and have someone announce that there are "minor technical difficulties" and that the proceedings will soon resume. Then take a deep breath, reboot and get on with the show.

Exit Stage Left

Luckily, true disasters are rare. They're just memorable. When a live show or presentation does go really well, it can be a pretty amazing experience. So how do you get onto this thrill ride? It may happen accidentally. Your boss might "volunteer" you to give a company presentation or ask you to demonstrate a product at a trade show. Your local school or church might need help with a community event. Suddenly you'll find yourself seeking out more exciting jobs. You might start networking with local user groups and professional organizations. Find a local production company and offer to barter their studio time for your Toaster support. You'll get work experience as well as a good demo reel. From there you can move on to commercial and industrial awards shows, live music support, music videos, rave and VR parties, product rollouts, theatrical productions and whatever else comes your way. Hang onto your Toasters. It's going to be one heck of a ride.

VTU



A video projection of a custom ChromaFX-enhanced Wizard of Oz. The purple lightning is a camera focused on a plasma ball responding to audio, so it responds to the sound of the wizard's voice.

An example of a DPaint animation frame keyed over a live music video shoot.

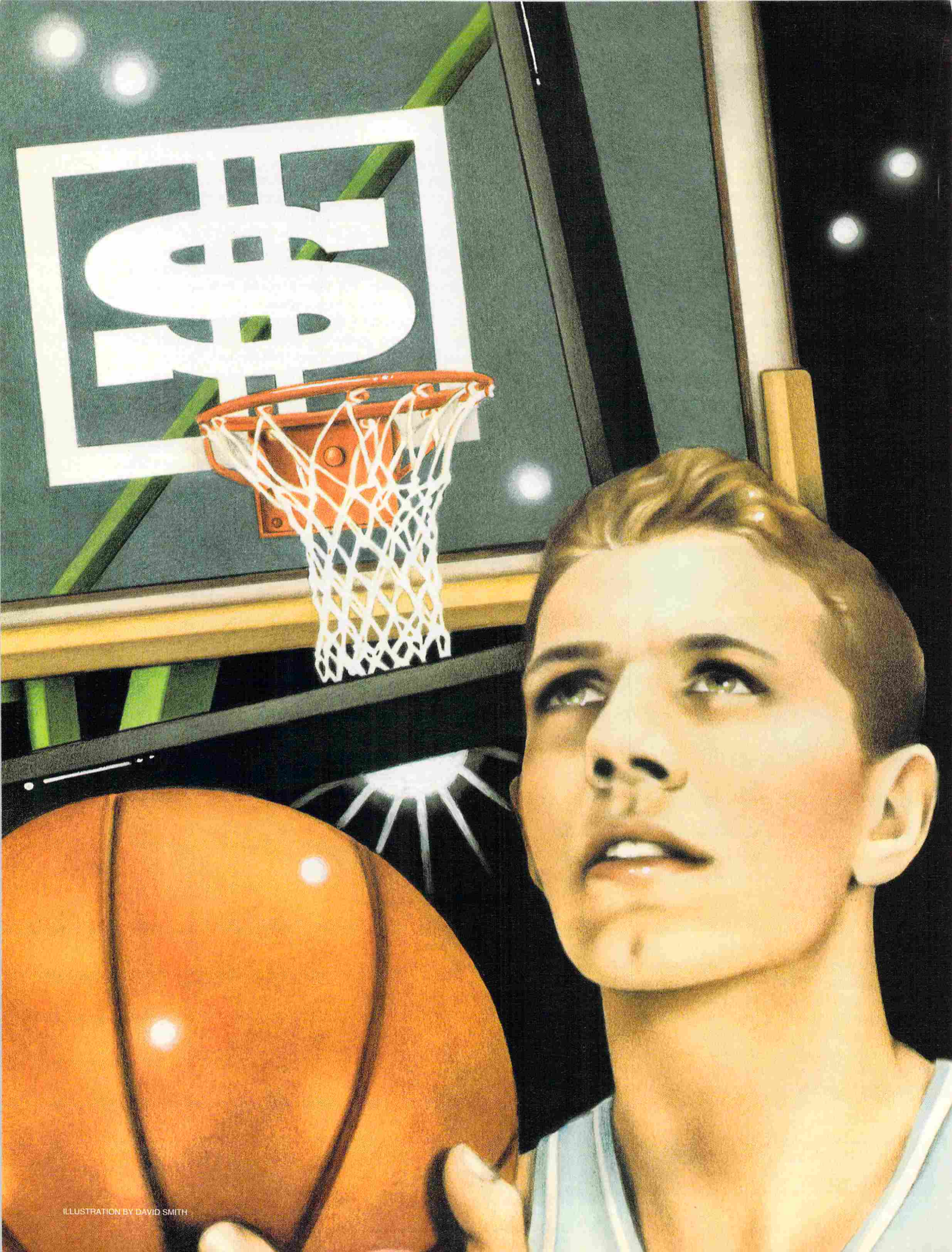


ILLUSTRATION BY DAVID SMITH

Slam Dunk to Opportunity!

The Toaster Wins Big in Sports Video Production

by Clinton Rathmell

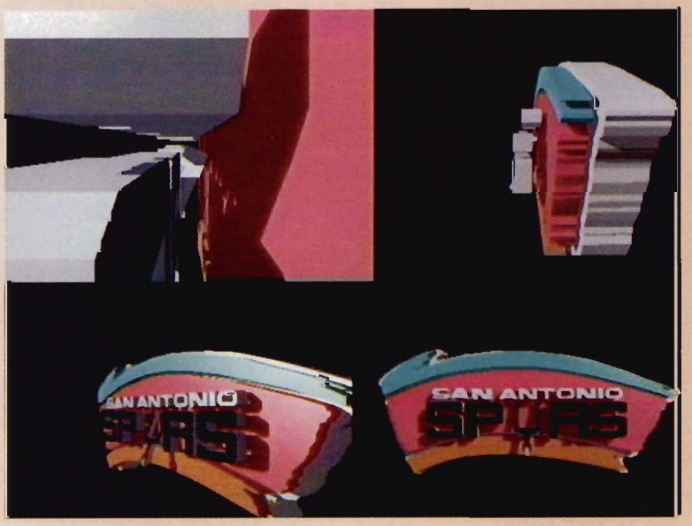
Television has become as integral and important to sports as any outlet today. Video is applied in every way one can imagine. The most obvious use is televising live events that generate billions in revenue. The survival of professional and collegiate sports as we know them is dependent on this source of income.

Most stadiums and arenas today have giant video screens that greatly enhance the live sports experience with replays, information and entertainment. Fans have become much more sophisticated and expect to be entertained during timeouts and halftimes. These giant screen elements are usually sponsored and, you guessed it, great revenue generators.

On the side of things that fans don't always see, video has replaced film as the medium that coaching staffs use for scouting and team review. Clubs do extensive taping and editing to scout opponents and analyze players. Football teams use video printers to capture and instantly evaluate opponent formations. Some organizations have started using non-linear editing systems so highlights and plays can be shown to a team by halftime if necessary.

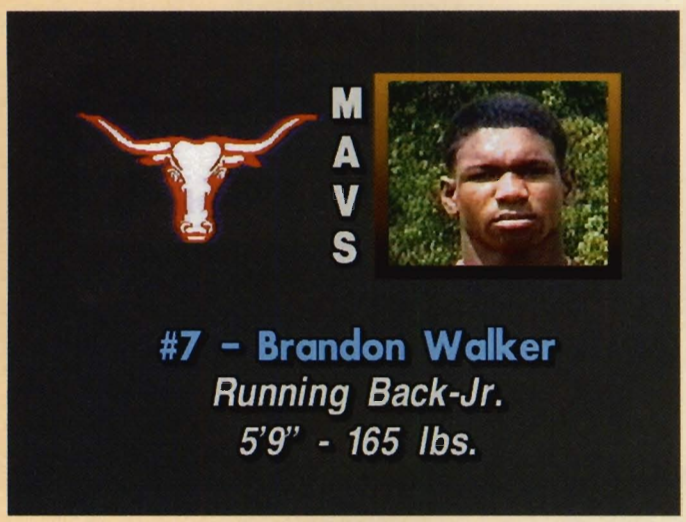
The advancement and utilization of all this technology have lowered costs and made it available to all levels of sports. Video is used in every part of competition, from high school to professional. We will look at the two

Logos like the one above are created with custom effects using various software packages, including LightWave, Art Department Professional and DeluxePaint IV.

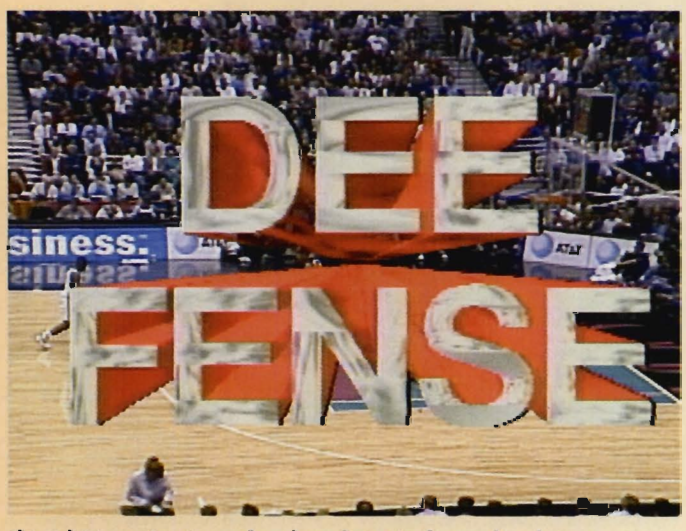


Four frames of a 10-second LightWave animation of the San Antonio Spurs logo.

Slam Dunk to Opportunity!



This image was created by John Gordon for coverage of the Marshall Mavericks.



This LightWave animation was keyed over live action for crowd involvement.

An example of a ToasterCG crawl page for posting scores of other NBA games over live action. This is a sponsored element.

extreme ends of organized sports and see how the Toaster can be a valuable contributor to all of the elements we have discussed.

Small-Town Toaster Usage

John Gordon, an independent producer in Marshall, Texas, has brought a new level of production quality to this small east Texas town and its high school football team. He has managed to do this using only a Video Toaster 2.0 running in a stock, unaccelerated Amiga 2000, a Future Video edit controller and two Panasonic AG-1960 S-VHS VCRs.

The local high school team, the Marshall Mavericks, won the state 5A championship in 1990. As the team progressed, playoffs were recorded with a single camera and the games were shown on the local cable system on a tape-delayed format. Everyone was glad to see the Mavericks, but coverage wasn't exactly Super Bowl-quality.

That changed with John Gordon and the Video Toaster. The next season, Gordon followed the team using the Toaster as a live switcher with three JVC cameras to really improve game coverage. For some razzle-dazzle, he created framestores with the player's numbers for game stats and big-play recognition. The character generator was an important piece that added lots of statistics and interesting facts. Maybe it wasn't quite *Monday Night Football*, but it was definitely a real leap forward from the one-camera coverage of the previous year. The town is very proud of its Mavericks, and seeing them showcased this way was exciting. The team didn't repeat its state championship in '91, but fans were able to follow the players as they progressed through playoffs while on the road.

"Without the Video Toaster, this level of production would just not have been possible in this market," said Gordon. "The low cost of equipment, combined with its portability, made this kind of coverage possible."

Gordon has 17 years of experience in the print media, including daily contributions to the *Shreveport Times*, Louisiana's second-largest newspaper. He also does reporting, writing and shooting for KCUL radio in Marshall and KTBS, the ABC affiliate in nearby Shreveport. The producer's work with KTBS makes him very familiar with the conventional broadcast television environment. He has also worked as a computer consultant through his extensive experience on the PC platform.

With this combination of skills, Gordon immediately saw the value and opportunities that digital video and a product like the Toaster presented. "I purchased my Toaster in 1991 and made the transition from amateur videomaker to real commercial work," he said.

Big-League Video

Within the professional realm, several sports franchises in baseball, football, basketball and hockey utilize the Toaster in many levels of operation and production. In the NBA, the San Antonio Spurs use a Toaster 4000 (along with an Amiga 2000 running version 3.1) in production and game operations. The Toasters are integrated with professional-level equipment such as Sony BetaSP videotape machines, a Sony PVE 2000 editor, a Sony DFS 500 digital effects unit and Panasonic optical disk recorders. Despite its comparatively lower price, the Toaster fits well in the Spurs' professional production environment.

This array of equipment is used to produce two weekly half-hour broadcast programs for the Spurs' six network affiliates, plus features for pregame and halftime specials and the team's JumboTron screen. After production is complete, the Toaster is pressed into service during live games feeding the giant screens. The Spurs' production crew utilizes every capability of the Toaster. The 4000 is equipped with PreVue Technologies' Breadboard and is interfaced to the Sony DFS 500 and an Echolab MVS6 production switcher. The ToasterCG serves as the house character generator and achieves very professional results, such as linear transparent keys. The 2000 is equipped with a GVP 030 accelerator board and DPS' TBCIV and Personal Animation Recorder. Animations and custom effects are built with several software packages, including LightWave, Brilliance II, DeluxePaint IV and Art Department Professional. The graphics creation is also supported with a Macintosh IIfx equipped with a Truevision NuVista+ video board running software such as Adobe Photoshop.

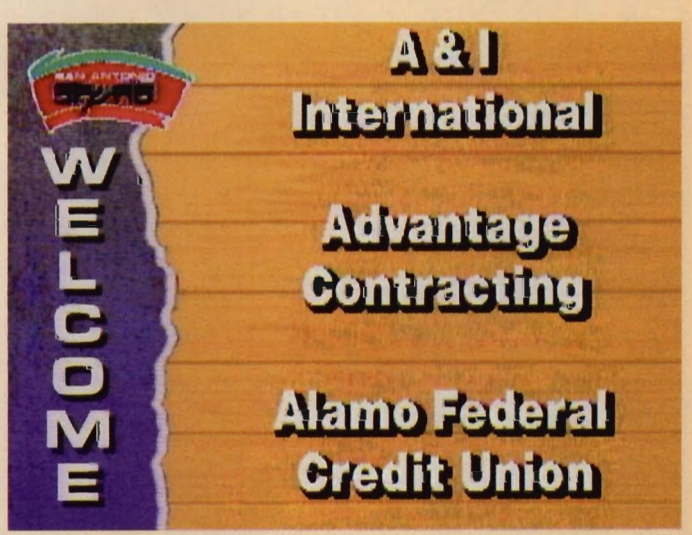
One might question why the Spurs would mix higher-end broadcast production equipment with the Toaster. According to Spurs producer and director Darr Weeks, "The Toaster may lack the speed of more expensive character generators, but we can create an incredible look with a much lower capital investment."

Professional sports is a very expensive business, and teams do not enjoy putting extra money into production technology that will probably be obsolete before it makes it in the door. The Spurs organization had resisted investing in production equipment in the past, choosing to take the work to outside studios. As those production costs rose and technological breakthroughs like the Toaster brought the price of production equipment down, the Spurs made the commitment to buy their own and keep the work in house.

Says Spurs broadcast producer Mike Kickarillo: "Most of the time our work demands a quick turnaround. For example, a last-minute trade requires a feature for the pregame show, which may have to be produced just a few hours before

A live shot of the colorguard at a Spurs game with a lower-third ToasterCG graphic.

The Spurs' production control room.



An example of a ToasterCG scroll page used to recognize group ticket buyers at games.

Slam Dunk to Opportunity!

a game. Having facilities always available can be a lifesaver."

Besides program and feature material, the Spurs also produce dozens of 30-second commercials per season for everything from season ticket sales to special promotions and sponsorships.

The bulk of production can pose a challenge to the creativity of the producers and directors. The Toaster, with the ability to create custom wipes and transitions with the use of animation software and Toaster Toolkit, can be a real aid. Purchasing several of the commercially available transition collections such as "Swipes" also helps to keep a fresh and interesting look to things.

During live games and the operation of the JumboTron screens, a vital part of the video contribution is keeping the crowd "in the game" by motivating them with on-screen cheers such as "Let's Make Noise" or "Dee-Fense." The Spurs have had their JumboTron screen for nine years and have learned that the crowd gets tired of the same old animations and graphics. People respond better to new and fresh material.

Before the Spurs obtained the Toaster, animation producers were responsible for crowd involvement elements. The organization would easily spend tens of thousands of dollars for 15 or 20 animations that would run the entire season and consequently lose their reaction from spectators.

The Toaster has changed all of that with the ability to create a large variety of crowd element pieces easily and quickly. Says director Darr Weeks: "We can create a few framestores and manipulate them with some unique transitions, and almost create a new set of crowd involvement clips for every game. The key seems to be variety, not necessarily complexity. The crowd gets bored with the same old pieces game after game. The Toaster is crucial to us in this respect."

The DPS Personal Animation Recorder is also invaluable for making more complex animations and rotoscoping big plays for player introductions and "hero clips" that run after a player makes a big play. "The PAR gives us the ability to do things we couldn't have afforded in the past because of the out-of-house costs," said Weeks.

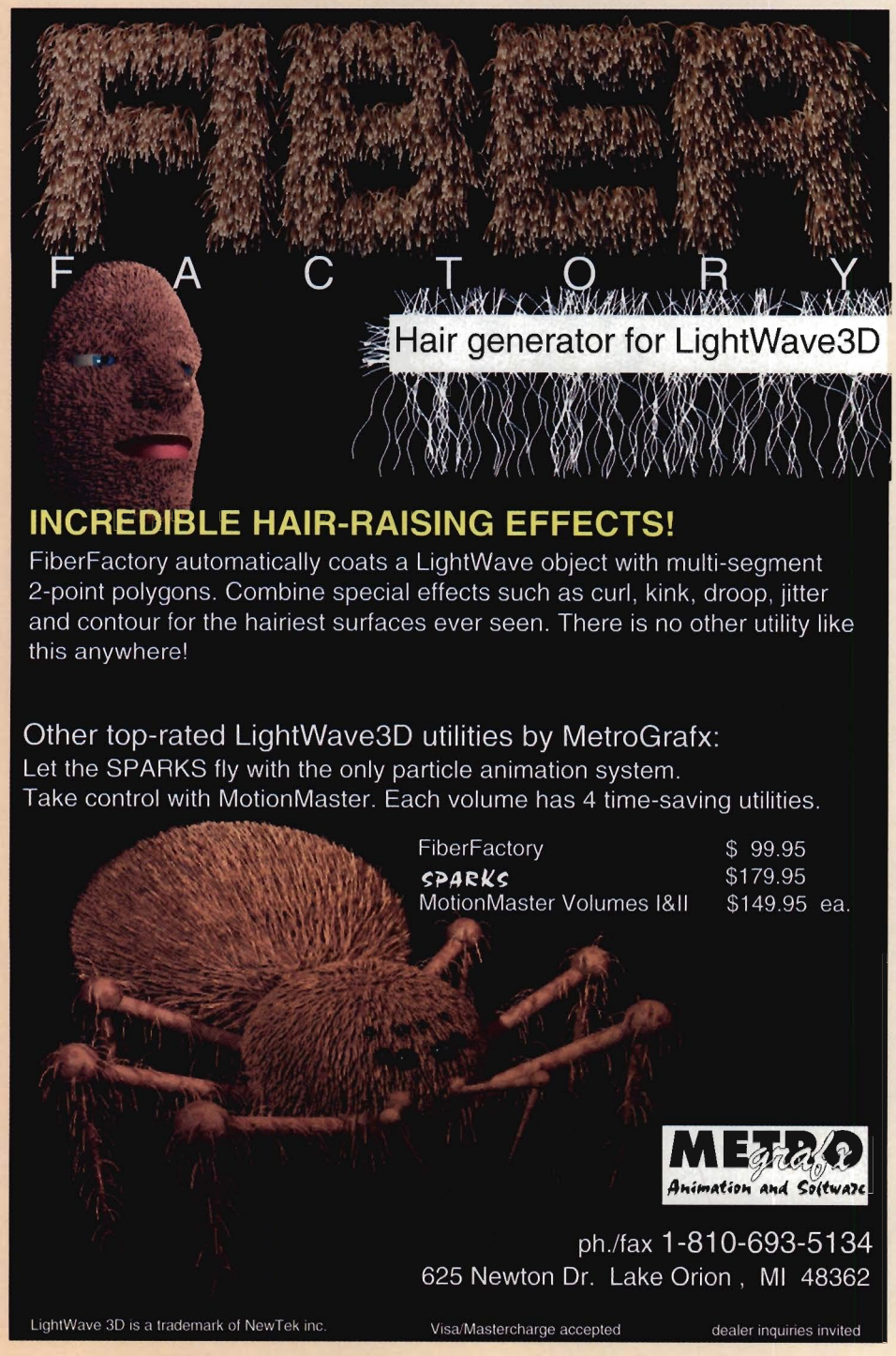
The Spurs are anxiously awaiting the Flyer in its finished form and plan to upgrade. The speed and ease of use have an obvious place in the team's busy production environment.

A Winning Strategy

The Spurs organization has one of the most successful broadcast operations in the NBA, and they do it within a well-planned budget. Capitalizing on technology like the Toaster and people who can maximize this potential has played a huge role in that success.

From high school sports and the most basic Toaster equipment to the professional level with the latest Toaster technology, this device has helped to bring new flash and capability to the sports world.

VTU



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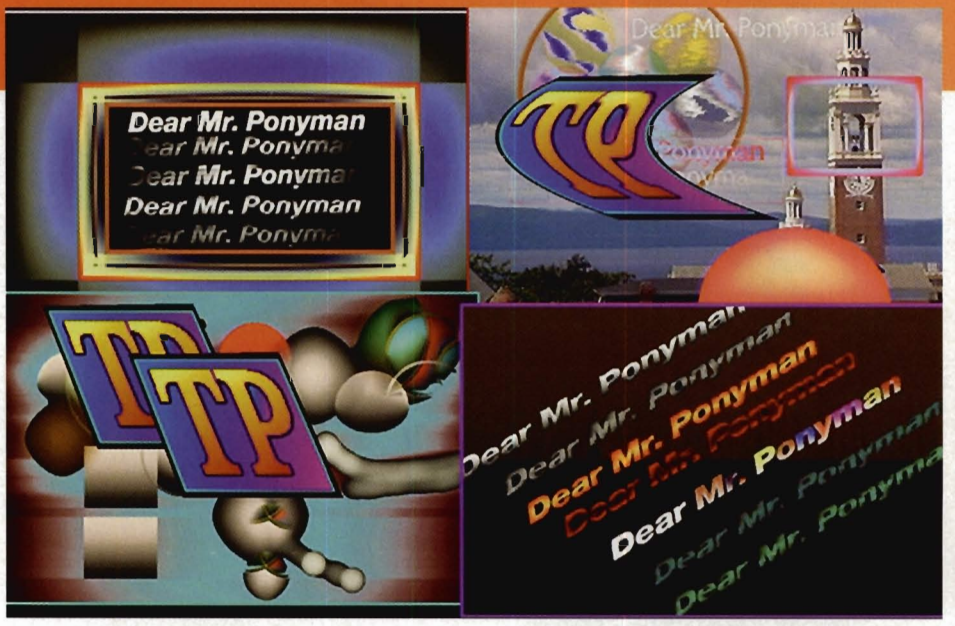
REVIEW

Buttering Your Toaster:

by R. Shamms Mortier



TPaint 4.0's highlights include a professional airbrush tool, text manipulation features and alpha channel enhancements.

As an enterprising Toaster user, you likely employ a number of paint packages in your work, and may be considering additional ones. So you need to know which programs best fit your system and your individual needs.

Professional painting software that interfaces with the Toaster should satisfy a number of categories: it should be able to address either the framestore or the RGB standard in output format and sizes; it should allow creation and manipulation of imagery or text suitable for professional applications; and the output should be displayable on the Toaster Switcher screen when the work is finalized. Additional options include incorporating image effects and software-based animation frame editing. Three separate types of painting packages seem to suggest themselves for targeted investigation:

1. Those packages that relate to the Toaster environment directly, so the output is directed immediately to the Toaster's DV1 or DV2 screen.
2. Packages that address the Picasso 24-bit board as a retargetable display. Why? Because the Picasso has become the Toaster user's standard for a non-Toaster-related add-on that can be addressed from within the Toaster itself.
3. Additional paint packages that address the framestore standard, 24-bit RGB imagery, or both, for Toaster-related graphic creation and manipulation.

These three categories delineate the boundaries of this article. The products in category one are the most important because of their most direct use by Toaster users. The two products that belong in this category are ToasterPaint and Alpha Paint. Category number two is also important because the Toaster's main external board is the Picasso, and TVPaint Pro and ImageFX 2.0 address the Picasso directly. Also of some lingering importance to Toaster painting enthusiasts are the four programs I will mention (but not spend a lot of space describing) in the third category: DigiPaint, DeluxePaint, TrueBrilliance and PersonalPaint.

Of Primary Importance...

ToasterPaint 4.0

I used the 3.9 pre-release Flyer software in looking at this version of ToasterPaint. A few late additions will likely find their way into ToasterPaint when the 4.0 release of the new Toaster system software hits the shelves.

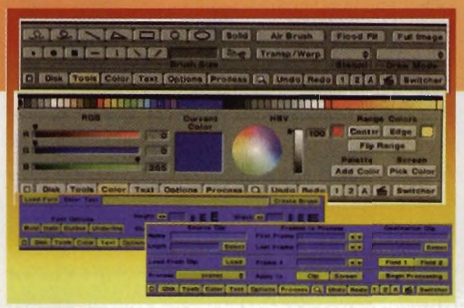
ToasterPaint is of primary importance for a simple reason: it is the one paint program that ships with the Toaster itself. ToasterPaint is the daughter of NewTek's original HAM (Hold and Modify) painting software, DigiPaint, which we will touch on later. With ToasterPaint, the user has the capability to actually paint over the incoming video signal of the Toaster without leaving the Toaster environment, a time- and money-saver.

Walking Through ToasterPaint 4.0

I used my experience with all previous versions of ToasterPaint to discern the differences and enhancements to 4.0. All software in this article was tested on an Amiga '040 4000 with 16MB of RAM. As far as text creation and manipulation, it is important to recognize that since the Toaster's character generator is part of the overall inclusive environment that ToasterPaint fits into, the many new text manipulation features in the CG are also part of ToasterPaint. Now PostScript fonts can be resized, sheared, stretched and rotated to any angle (great for creating perspective text boxes).

Applying textures to text is accomplished either by assigning a texture map, as in previous versions, or working with a 16-color range in designing a two-color spread. A feathering look can

An Overview of Paint Programs and Their Uses With the Video Toaster



A complete redesign of the ToasterPaint interface arrives with the 4.0 version.

Perspective brushes fly toward the horizon in a ToasterPaint 4.0 scene.

Alpha Paint's interface is quite different from ToasterPaint's, but offers more variations and options.

be accomplished by altering the transparency of the outer limits of the text brush in the Transparency menu. The internal and external values of a transparent range from 1 (totally opaque) to 100 (totally transparent), and can address a text block or a graphic brush. Adjusting where you set the movable hotpoint of the sliders determines the look and degree of the feathering.

You might think at first that the straight-line tool is missing, but it's really a part of the polygon tool. Though the toolbox interface is a bit misleading as far as what experienced users might anticipate, a little practice acclimates you to its use. The rest of the expected drawing tools are here, in both filled and unfilled options: poly, rectangle, oval and circle. A selection of primitive brushes is also included, though the resizing slider could be tuned up a bit for smoother movement. The flood fill options have to be controlled from the Gradients menu, which gives you three choices: "hot spot" (a radial look), horizontal and vertical. All of these are adjustable, just as in previous versions. The new airbrush actually has the feel of the real-world tool, as opposed to a less acceptable spray can filled with blocky pixels. A somewhat less pleasant attribute is that turning on the screen's coordinate system writes the coordinates over the drawing mode types display. This problem should be redressed.

The Disk menu is where files are saved and loaded, and where you can "grab" a frame from an incoming video signal pouring into one of the Toaster's inputs. You can load framestores, RGBs, brushes and alpha channel graphics. Alpha channels can be created and saved as either 4-bit (16 gray levels) or 8-bit (256 gray levels) files, another new ToasterPaint feature. (Alpha channels, for those of you inexperienced with their purpose, are separate screens used as masks to alter the transparency of your color art so that the video signal can "show through" at various targeted points.) ToasterPaint 4.0 offers full alpha transparency painting. Besides alpha data, ToasterPaint allows images to be saved as framestores, RGB images and brushes. A separate Color menu allows you to target painting colors in either their RGB or HSV spectrums, and offers a new HSV color wheel.

Amiga 4000 owners will love the ToasterPaint 256,000-color HAM8 display, which, even on close inspection, rivals most 24-bit color output. Other improvements include a new stencil tool, improved and easier-to-understand keyboard equivalents, an enhanced global fill (at last!), improved magnify modes and an all-new Process menu, where any image from a Flyer or Anim Clip can be instantly imported for ToasterPaint manipulation and effects.

ToasterPaint Conclusions

When I first saw the enhancements made to all other Toaster modules in the Flyer package, I was astounded. The CG, Switcher and LightWave have all undergone extensive enhancements. My expectations concerning ToasterPaint were heightened even before I opened it up. It was obvious on first sight that the interface design was completely redone. Grabbing a full-screen brush is now much easier than in previous versions, and the addition of the more professional airbrush tool is also welcome. Add all of the other enhancements, and you finally have a paint program that does justice to the total Toaster environment.

Alpha Paint 1.0

This paint program from InnoVision is the only other one that addresses the Toaster output directly, and is the most similar to ToasterPaint as far as that attribute is concerned. Alpha Paint is an add-on, meaning that you will have to consider investing in it in addition to your Toaster costs. Interface navigation will take about an hour or two to get used to for experienced ToasterPaint users. Because of potentially disastrous pirating issues, Alpha Paint is heavily copy-protected, and if you decide to reinstall it you'll need to call InnoVision for a special code and instructions. This software has the most extensive alpha channel possibilities of any package I've used, and the resulting image compositing leads to ultra-high quality suitable for professional use.

Details

Alpha Paint has five main menus: Pen, Brush, Palette, Buffers and Play.

"Pen" is where the three pen types (circle, square, ellipse), their size (1 to 64 pixels), aspect (vertical to horizontal ratio from 1-100%), rotation (0-360

Where and Why the Toaster User Might Consider Utilizing These Products:

1 ToasterPaint 4.0

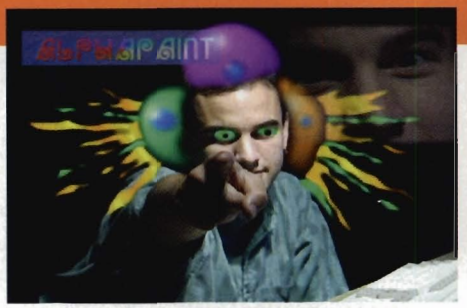
Because it comes with the Toaster package, this software has no add-on costs associated with it. It will meet most of your video graphic and text creation needs. Remember, it works from within the enclosed Toaster environment, and is part of the overall Toaster package.

2 Alpha Paint 1.0

When your work calls for more professional painting results and you still prefer to work within the Toaster environment, call on Alpha Paint. This is one of the best paint packages on the market, especially when your production calls for the kind of screens that are only possible with superlative alpha compositing. You have to purchase it as an extra, but its cost (around $700) is absolutely minimal when you consider the depth and range of its tools. The experience and expertise with font manipulation and colorization that InnoVision demonstrated in its Montage software plays a big part in Alpha Paint. This paint program is the most professional one available to Toaster users.

3 TVPaint Pro

As far as writing to video, ToasterPaint and Alpha Paint have output that is restricted by the composite resolution of the Toaster screen. Paint programs that address other 24-bit boards, like the Picasso, suffer no such restrictions, and their RGB output is far sharper and allows for more graphics variation than composite output. If you are a Toaster owner who also owns a Picasso as part of your Toaster configuration, TVPaint Pro is an excellent addendum for producing screen sizes and painting effects



This image of my friend John Antram was altered in about five minutes using Alpha Paint's extensive painting and compositing tools.

Alpha Paint's startling text capabilities, including circular wraps, make it a must-have for serious Toaster users.

degrees), graphics visibility (up to 100% of what you see on the Alpha Paint screen) and video visibility (up to 100% of what you will see on the Toaster overlay screen) are chosen. All attributes are chosen by exacting sliders.

"Brush" is any imported graphic, text or picture. You can select its weight (transparency), mode (normal, rub thru, erase, colorize), and a number of other effects (negative, smear, watercolor, mix, and associated light/dark/contrast and Gamma settings). You can alter a brush's "face" (text face), outline, shadow and glow possibilities with very fine-tuned sliders. Perspective can be added interactively or by slider, as can scaling. There is even a check box for Mac aspect ratios.

"Palette" is just what you'd expect, an environment that allows you to adjust the colors of the palette. But it's also what you'd never suspect: a collection of tools and interactive displays that allow you to design and save your own unique color spreads to targeted palette pots! No other program offers this feature, and it is highly useful when the time comes to add texture to text. Simply choose the palette pot and write out the full-color gradiated text. The possibilities are limitless, and simple to master. By the way, there are 200 palette pots, segmented on 10 separate strings with 20 pots each.

"Buffers" allow you to select from "Work," "Stencil" or "Video" modes. Tool options include copy, clear, invert (great for stencil work), load and save.

Alpha Paint's "Play" menu is similar to ToasterPaint's "Disk" selection. You can select either Overlay or Background from any of the Toaster's four video inputs. In addition, just in case you want to record directly from Alpha Paint, the graphics can be set to cut or fade. "Play" then runs the selections for taping a scripted slide show.

A special text manipulation screen allows you to do everything possible with a text string. It can be resized separately on the horizontal and vertical, gain shadows or outlines, and be separated on multiple lines in one text string. You can incorporate the older Toaster Fonts as well as ColorFonts and PostScript. The best situation of all is that you can also write the text in a circle, an unheard of possibility except with desktop publishing utilities.

Alpha Paint Conclusions

The only negative points that I can make about this program concern the lack of a true professional airbrush option and the fact that you may have to get used to the way that painting sessions commence. To change to an alternate painting mode, you have to first click the right mouse button instead of simply clicking on the new tool and using it on the screen. But that's really small potatoes when compared to Alpha Paint's other features, including full graphics tablet support. Where ToasterPaint has only a single Undo/ Redo capability, Alpha Paint adds multiple Undo/Redo options, including a special Redo+ that really hammers the change in place if you're working with transparent settings. And InnoVision promises to add more effects in a coming upgrade.If you own a Toaster and create professional work that calls for a very high-end on-board paint program, run—don't walk—to your nearest dealer with a check in hand for the purchase of Alpha Paint. NewTek would be advised to bundle this software as the native paint pack-

Though it doesn't address framestore loads or saves, TVPaint Professional 2.0 remains a high-end painting and effects program useful for Toaster owners who utilize the Picasso 24-bit display board.

ImageFX 2.0 offers the Toaster user a prolific amount of effects options, plus drawing and painting tools. Here we see the result of adding "lightning" to a painting made with this software.

age with a future edition of the Toaster. If you don't believe me, find a way to experiment with it for a few hours.

Secondary Paint Wares for Toaster Users

TVPaint Pro

TVPaint could have the appellation "RT" added to its name, meaning "retargetable." That's because it has the capacity to address several 24-bit graphics boards in addition to the Picasso. Because of its RGB dedication, TVPaint can be set to incorporate very high resolutions, as long as you have the correct multi-sync monitor handle the signal (I use it with a vintage SONY Trinitron). The way I interface it with Toaster screens is to reduce high-resolution images to Toaster-sized 752x480. With that process, elements of images look even sharper. (Designing images in an upsized manner and then reducing them is a very old graphic design method of enhancing them.) TVPaint is limited in its fancy graphics effects, but has enough to do more than get by. It also has the welcome capacity to load other needed formats that your pictures may be in, including JPEG. If you own a Picasso, you deserve to work with TVPaint Pro as a part of your production library.

ImageFX 2.0

All good paint packages contain effects and image manipulation/translation tools. ImageFX 2.0 (IFX2) is a great effects package that also contains professional painting tools, so I see it as equal to any of the other software that we are covering. As far as painting tools, it contains all and more of the expected basic applications. Effects-wise, it outshines everything else around, and can stand with any painting-effects package on any platform. Painting and effects can be applied to the entire image or to selected targeted areas. ImageFX loads and saves image formats that cover almost everything on any platform you can imagine, so if you need to get a PICT or TIFF image file into your Toaster productions, this is the way to do it. IFX2 also both reads and writes framestores, making it even more valuable to the Toaster user.

PersonalPaint

Cloanto is an Italian company striving to be recognized for its up-and-coming package, PersonalPaint. Now in its 6.1 version, PersonalPaint boasts a number of tools unique among painting wares. It reads JPEG and GIF files, as well as IFF 24s. It has a growing list of image-processing tools that operate on both pictures and graphic brushes, and allows you to immediately retarget imagery to the Picasso and a list of other 24-bit boards. Added to its capacity to load 24-bit JPEGs and other formats faster than any other software I've seen is its full animation and storyboarding tools. PersonalPaint has extremely fast conversion routines for translation of 24-bit to 256-color images, and the dithering is very exact. It also contains full-color 24-bit, printing tools and refinements.

Category Three

The third tier of painting software we incorporate for your consideration has less to do with the Toaster directly, but may find its way into your production that neither ToasterPaint nor Alpha Paint can handle. Remember, when you paint in a higher resolution screen than the Toaster's painting output allows and then reduce that same screen to the 752x480 resolution Toasterites are familiar with, the result is a sharp graphic that can be used as a framestore or an imported RGB file for wrapping 3D images in LightWave. If your Toaster system includes a Picasso, treat yourself to the options of TVPaint Pro. This software also reads/writes JPEG and other file formats.

4 ImageFX 2.0

You may object to my references to ImageFX in a painting context, but if you do, it's because you haven't had a chance to use its painting tools. It, too, renders to the Picasso. ImageFX is unlike any other image processor for the Amiga, adding deep painting possibilities. Most paint programs these days also offer a wide range of effects tools. ImageFX 2.0 just does the opposite, offering extensive painting tools as a balanced approach to image processing and manipulation. It allows you to save directly to the framestore format. ImageFX 2.0 is the Photoshop software for the Toaster, and also reads/writes JPEG and many other platform file formats.

5 DigiPaint

If you own an Amiga and want to experiment with a painting program that trains you for ToasterPaint, seek out the vintage NewTek DigiPaint software. Though outdated by more recent 24-bit paint packages and boards, it is still an excellent training ground for working with ToasterPaint, and can be purchased for about $40 by mail order.

6 DeluxePaint IV

DPaint is the mother of all paint programs, and its interface and icons have influenced all of the

others. Besides its ability to read in 24-bit files for manipulation, it has an excellent animation facility that allows you to generate and edit single-frame animation files. The coming release of DPaint V should see the upgrading of its 24-bit RGB capacity.

7 TrueBrilliance 2.0

Play Incorporated (previously "Digital Creations") has taken all of the expertise learned over the years from its other wares and poured it into the development of the awesome painting software called "TrueBrilliance." This is one of the most full-featured painting programs around, and can load in 24-bit graphics with ease. It requires an Amiga 4000 or 1200 for full implementation.

8 PersonalPaint

If you need to translate an IFF24-bit image into a 256-color version quickly, this is a great package to consider. PersonalPaint continues to grow in terms of effects applications, and should see added libraries of graphics effects in the future. Its animation storyboarding routines may fit the bill as far as your needs for output go, and its price/performance ratio is unbelievable.

One package I ordered didn't arrive in time for inclusion here: Almathera's Photogenics. Photogenics is a program from the U.K. and not readily available in the U.S., but it looks like it has the capacity to accomplish high-end image creation and manipulation.

I hope you have enjoyed this article. Our intention is to establish a now-and-then series presenting specific how-to articles on electronic painting for the Toaster in future issues of *VTU*. Address any comments to *VTU* in care of my name. Meanwhile, enjoy! See you in ROMulan space.

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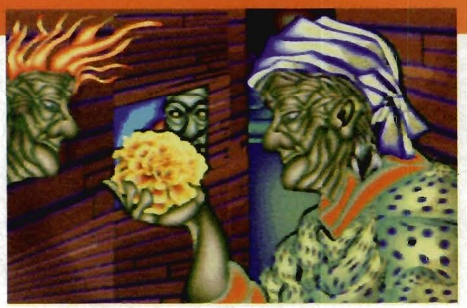

DigiPaint was used in the creation of this image, part of a print series that gathered honorable mention in the 1990 national gallery show at the University of Pennsylvania. The title is "Mrs. Zelinsky's Flower."

"Caught Between" is a digital painting produced in DPaint's HAM mode in a 320x400 overscan resolution. It was later resized to 752x480 and used as a framestore screen.

needs. These are software painting/effects packages that neither load nor save in the framestore format, but restrict their input/output to the RGB realm. The result is a few steps of translation added to your work. Even though this limitation adds a certain expanded time needed for the completion of a task, it may be worth considering. Three of the four packages I will mention also contain absolutely great animation editing facilities for working on collections of single-frame sequences.

DigiPaint

Before there was a ToasterPaint, NewTek developed DigiPaint. DigiPaint addresses two HAM (Hold and Modify) resolutions, 320x200 and 320x400, plus overscan. I used this software for years for professional tasks. NewTek designed some interesting algorithms in DigiPaint that seem to obliterate or minimize jaggy artifacting. You can always resize a DigiPaint screen, tweak the image a bit in ToasterPaint or Alpha Paint, and get great art for Toaster purposes. I have a hidden fantasy that NewTek will one day release a full-blown AGA Hi-Res version of this software as a standalone product.

DeluxePaint IV

This paint program's interface has become the archetype that other vendors study when they develop painting wares. It still remains a power in the marketplace. DeluxePaint IV can load in 24-bit graphics (slowly), but can't save them out as such. It might act as a platform at the end of your Toaster graphics chain, a last stop for images that need the graphics or animation capabilities provided. DPaint doesn't offer any effects processing to speak of, but it does have some interesting and variable tools for developing color spreads. The coming version V (promised by spring) is supposed to be much more full-featured.

TrueBrilliance 2.0

This is the software that DPaint wanted to be, offering everything AGA enthusiasts could desire and more. It loads and saves in true 24-bit, though operations take place on an Amiga AGA HAM8 screen. You can design and save out 24-bit brushes, though some other graphics programs do not like TrueBrilliance's 24-bit brush format. It also comes absolutely loaded with a library of effects, more than ToasterPaint or Alpha Paint offer at this time. This software works in standard 24-bit and HAM8 modes, has astounding gradient fill possibilities, and offers a very deep animation editor as well. TrueBrilliance is to DPaint what Alpha Paint is to ToasterPaint: a step above and twice as deep. I could not do my work without TrueBrilliance in my library.

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Companies mentioned:

Cloanto
(PersonalPaint 6.1—$99
plus mail-order fee)
Ramiga Int'l Ltd.
Stablau 'Rin
PENTREFOELAS Clwyd
L24 0HT
0690-770-304
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Electronic Arts
(DPaint IV—$129)

This picture, which I call "William the Conqueror," was painted in TrueBrilliance, saved as a 24-bit image and ported to the Toaster as a framestore.

1450 Fashion Island Blvd.
San Mateo, CA 94404
(800) 245-4525
FOR INFORMATION CIRCLE 15

InnoVision Technology
(Alpha Paint—$699.95)
1933 Davis St., Ste. 238
San Leandro, CA 94577
(510) 638-0800
Fax (510) 638-6453
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NewTek, Inc.
(ToasterPaint—bundled with
the Video Toaster)
1200 S.W. Executive Dr.
Topeka, KS 66615
(800) 847-6111
Fax (913) 228-8001
FOR INFORMATION CIRCLE 17

NoahJi's
(TVPaint Professional 2.0—$449.95
or bundled with many 24-bit boards)
3591 Nyland Way
Lafeyette, CO 80026
(303) 499-1975
Fax (303) 499-1979
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Nova Design, Inc.
(ImageFX 2.0—$399)
1910 Byrd Ave.
Richmond, VA 23230
(804) 282-6528
Fax (804) 282-3768
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Play Incorporated
(TrueBrilliance— $99)
60 Blue Ravine Rd., Ste. B
Folsom, CA 95630
(916) 344-4825
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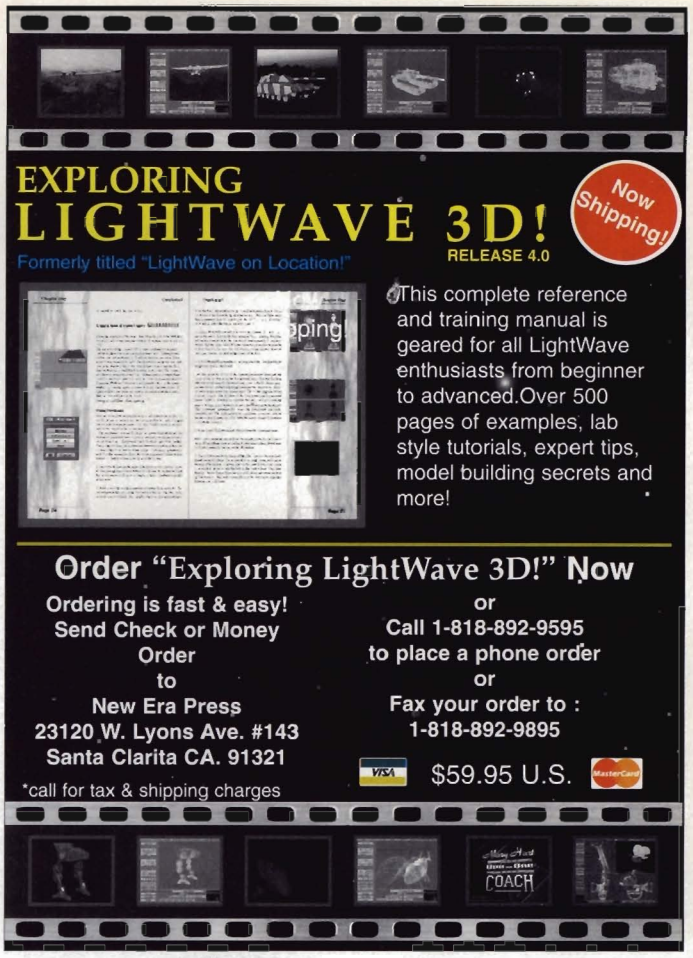

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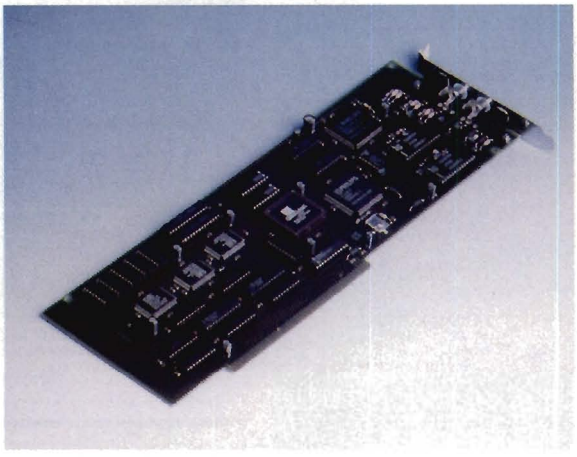
3591 Nyland Way • Lafayette, CO 80026

VLab Motion II

An Upgrade in Non-Linear Editing

by Matt Drabick

VLab Motion II, made by MacroSystem GmbH and distributed by NoahJi's, is a Zorro-II non-linear editing system for the Amiga 2000, 3000 and 4000 aimed squarely at the S-VHS/Hi8 industrial video market. Both external composite and Y/C video inputs and outputs are provided. A TBC isn't required when capturing video from a VCR or other unstable video source and an optional module is reportedly still under development for working with Betacam component video. (Note: No support is provided for working directly with the Video Toaster or Flyer. And development on the promised Zorro-III version with improved performance has been stopped.)



"Anyone looking for a less expensive non-linear editing system should consider this one."

Workbench 2.04 or higher, a large hard drive and at least 2MB of RAM are required. Also highly recommended for operating VLab Motion are 8MB of RAM or more and a fast CPU (68030 or 68040). A separate composite or Y/C video monitor is required for previewing, recording and playing back video samples. Though an IDE hard drive can be used for compressing and decompressing video in real-time, a SCSI or SCSI-2 hard drive is preferred.

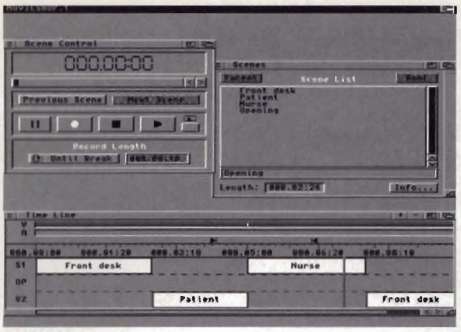
For the best capture and playback performance, an Amiga 2000 equipped with a CSA 40/4 Magnum accelerator and its built-in SCSI controller works very well. Thanks to its built-in SCSI controller and 68030 CPU, a stock Amiga 3000 is also a good choice. For the Amiga 4000 and its IDE controller, the Warp Engine, with its SCSI-2 controller and memory expansion, is highly recommended. Because of lower image quality when capturing and playing back video, NoahJi's doesn't recommend using a GVP accelerator/SCSI controllers with VLab Motion II.

When capturing video, a dedicated hard drive or hard drive partition is required for capturing and playing back video samples. Regular AmigaDOS files can't be saved to that drive or partition. When using MacroSystem's optional Toccata 16-bit sound card to capture and play back sync sound, 8-bit and 16-bit stereo sound files are saved as AmigaDOS files. Though not required, using a dedicated hard drive for audio samples is recommended.

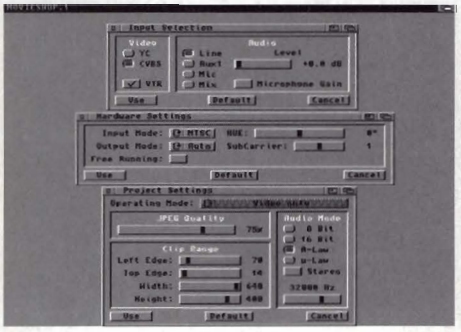
VLab Motion II can be used as an animation recorder. Unfortunately, the promised file system for importing and compressing LightWave and other files to VLab Motion II's dedicated video drive as they're rendered hasn't happened. Frames must be rendered, saved as 24-bit files using a separate AmigaDOS hard drive, and then imported into the MovieShop software for conversion to compressed JPEG files. Once converted and saved to VLab Motion II's dedicated video hard drive, animations can be played back in real time. This eliminates the need for a single-frame controller and frame-accurate VCR.

The included MovieShop software offers draggable windows that can be opened for selecting and adjusting the video source, capturing video and audio samples, placing video and audio samples on the timeline, and adding transitions. Note that transitions must be rendered first. Because of the many windows that can be opened, your RGB monitor's display screen can quickly become cluttered. The answer is to use NoahJi's Retina Z3 high-resolution RGB graphics card (up to 1280x1024 pixels resolution and 256 colors), which includes the excellent 24-bit paint program XIPaint. VLab Motion II has a list price of $1,750. Bundled pricing with the Toccata is $2,150; with both the Toccata and the Retina Z3, the cost is $2,650. An enhanced version of MovieShop appropriately named MovieShop Pro is reportedly still under development. It will provide SMPTE time-code support and generate EDLs using CMX protocols.

The new features of VLab Motion II are mainly in MovieShop 2.1. Significant improvements with audio support include audio-follow-video even when cutting, copy-



Scene control provides VCR-style controls for capturing and playing back video and audio clips. The timeline is used to edit clips with or without transitions.



Different settings allow you to select video input, source and level of JPEG quality.

ing and pasting video samples. Audio samples are now displayed in the timeline. Envelope curves allow audio to be faded in or out or the overall level to be adjusted. Sound effects include reverb and cross fades. Audio files can now be easily imported. Rendering times for both audio and video special effects have been reduced. Non-audio improvements include automatic smoothing when capturing complex video samples, and prevent overloading the hardware. An improved manual and training videotape will soon be shipping.

Overall, the MovieShop 2.1 software is more stable and polished than previous versions, with the interface redesigned and more user-friendly. Though VLab Motion II lacks the Flyer's real-time transitions and doesn't provide CG or 3D animation software, anyone looking for a less expensive non-linear editing system should consider this one.

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Company mentioned:
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(VLab Motion II, Toccata and Retina Z3)
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(303) 499-1975
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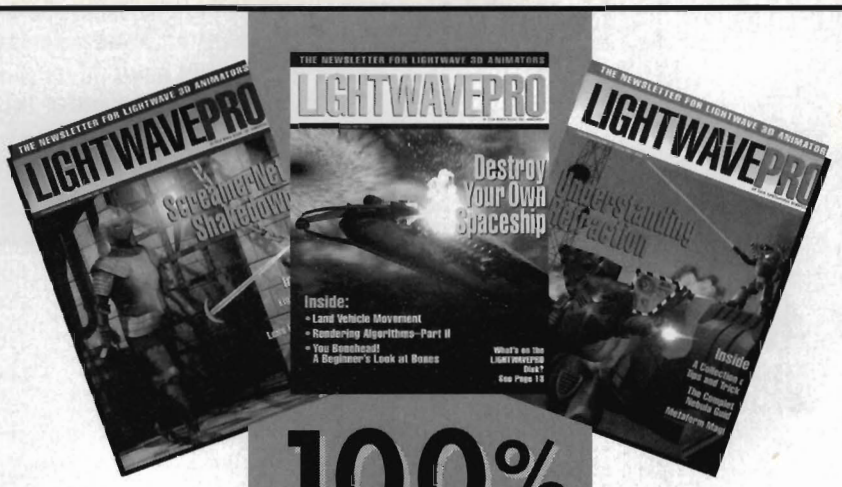

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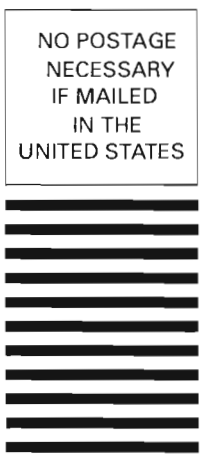

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Shows data and resource 'fork'	Yes	Yes
Displays Mac icons on Workbench	Yes	No
Mac text translation option	Yes	Yes
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CD-ROM Texture Collections

Captivating Surfaces for Mapping

by R. Shamms Mortier

On we go with our third installment of reflections on CD collections that Toaster/ LightWave users can depend upon for great backgrounds and texture mapping. I hope to keep you informed periodically about the best in CD libraries. There's a lot out there—a lot of great stuff and some not worth the investment. I'll endeavor to tell you about the best.

I recently purchased one of those plastic CD cases, the ones that hold about a hundred CDs. I took it apart and gave half to my son for his CD music collection, figuring that all I would need was space to hold about 50 CDs for texture mapping and such. Well, guess what? It's only been about eight weeks and I'm already out of space. With the scheduled introduction this summer of a CD-ROM reader/writer from Sony with a street price of about $1,000 (various vendors currently market them for $2,000 to $4,000), you can bet that there will be a big expansion of the CD market in the near future. So prepare by getting yourself an expandable set of holders. If you're a computer graphic artist or animator, you'll need the space to hold the CD-ROM treasures on the way.

"Texture Heaven 2 expands upon its predecessor's reputation."

Texture Heaven 2

The first CD we'll look at this time is the second edition of Asimware's Texture Heaven. Volume 1 of the series was discussed in the March 1995 issue of *VTU*. So how does this version measure up? Volume 1 had some very nice wood, marble and other textures that looked great when mapped, and Texture Heaven 2 expands upon its predecessor's reputation. To begin, the TH2 CD addresses more formats than its forerunner: BMP, HAM8, IFF24, JPEG, PAL24 and (of most importance to Toasterites) framestores. There are about 170 textures repeated in these different formats. The Framestore drawer, however, contains different graphics (all in the expected 752x480 format), so Toaster users will feel doubly blessed. There are some wonderful organic textures here, like "Monsterskin," "Eeltime" and "Brainstorm." Also included are multiple graphics that make up a full "thumbnail" directory, so you can see what is available at a glance.

Replicas

Specular International is the company that markets Specular Collage, TextureScape and INFINI-D for the Mac. Users of Utilities Unlimited's EMPLANT board may be familiar with some of Specular's wares already. In addition to a large collection of marble, exotic wood (wait till you see these babies), procedural textures and patterns, there's a lot more here for the LightWave artist and animator to dip into. There is also a collection of drawers of objects in the INFINI-D format that look great when rendered in LightWave. These include office furniture; lamps and chairs; road, rail, air and sea transportation; dinosaur skeletons; great humanoid objects; and exaggerated human characters. In addition, commercial studios will want to check out this CD for 3D packaging objects (cases, cans and cartons complete with ready-to-wrap labels). The caveat as far as getting the 3D objects into LightWave is that you must first be running INFINI-D and load them in, then save them out in DXF format. There are some great (but very large!) objects here that may be quite useful to the LightWave animator. But whether you tap into the 3D objects or not, let me assure you that if all you ever use is the exotic woods library, you will have gotten much more than your money's worth. Textures are in the PICT file format, so you might need a format converter program to use them. I recommend Nova Design's ImageFX 2.

Motion Clips

Awesome for many reasons, this CD is a must-have for computer artists and animators. Even before I talk about what the images and animations are, I'll point out that the "Fast JPEG" utility is something you will want to install on every system you own. This viewer allows you to preview any JPEG'd image in about one-fourth the time it normally takes to do so. Now to the images and animations.

This disk contains mostly animation files in single-framed JPEG format. There are about a dozen backgrounds thrown in for good measure, but the animation files will be what turns you on. I would classify these files in three categories: standard, movie clips and claymations. By "standard" I mean clouds, water, Niagara Falls, early spring along a stream, and more. All of these animations contain enough single frames for about 10 seconds or so of footage (at 30fps). There are some great animations of stormy skies, and the Niagara Falls shoot is spectacular. The movie clips are mostly black and white vintage material. There are shots of a science lab table, a machine shop, a traffic scene, a bus stop, a football game and more. These could either function as backgrounds or as texture maps (like a shot of a 3D TV set model that needs a moving "picture"). The claymations are the cream of the crop, and focus upon a claymation "band" and its players. I'm not sure where you would use this, but I love the idea. Accadia is going to work on more of these, and they're open to doing claymation as a custom job, too. Added to all of this is a library of psychedelic optics that are great for either texture maps (especially bump maps) or backgrounds.

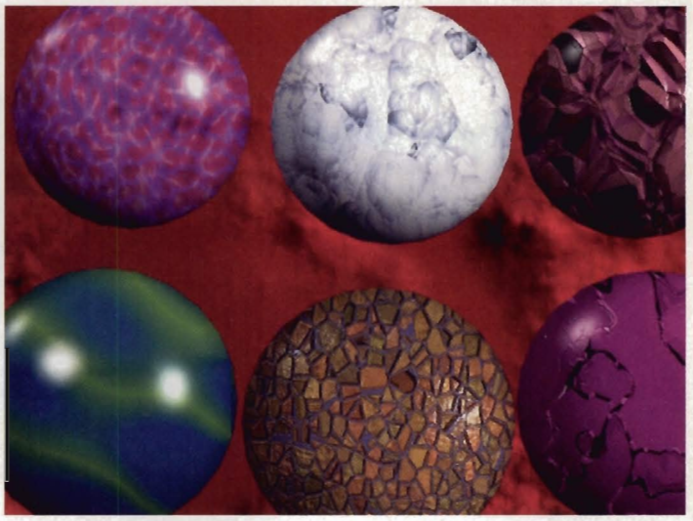
LIGHT-ROM

Fred Fish's first non-Fish Library venture into the realm of standalone CDs is a great piece of work. The disc is full of 3D objects (for both Imagine and LightWave), but we will cover these in more detail in a later article. I want to call your attention to the image collection on this CD-ROM. There are three drawers that are important in this regard: Images, Textures and Bump Maps. The Images come as IFF24s, Targas and JPEGs, and each format represents about a dozen graphic screens just right for text placement as video slides. The bump maps come in the same flavors, and consist of more than 40 black and white images to be used for bump map applications in LightWave. The Texture drawer contains the same formats in 10 categories, including Marble, Metal, Miscellaneous, Organic, Rock, Stone, Water and Wood. Many of the textures are painted, though there is a mix of photographic material as well. There are a couple of hundred textures in all.

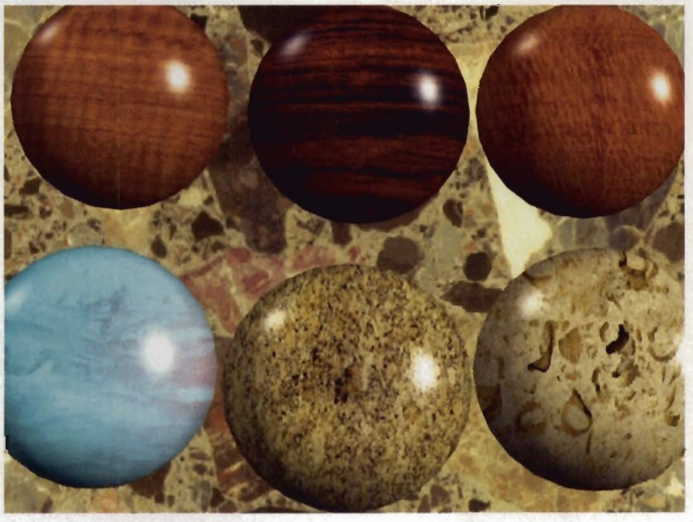
Broadcast Images and Animations

I'm going to stretch the point a bit with this inclusion. The images and animations by Digital Animation Corporation are not on a CD-ROM—yet. They are waiting for the coming CD-ROM MPEG technology before porting their work over to that medium. In the meantime, they are serving the broadcast industry with high-end tapes in all formats. I suppose that if you are interested in using their work as a texture map, you could digitize it frame by frame and map it to an object. They offer both still frames and animation segments, and from my experience their tapes are very stable and easy to digitize, with high-quality

continued on page 84



The Texture Heaven 2 CD has many great textures that give objects an organic look.



Exciting new mapping possibilities are within reach with the Replicas CD.

Motion Clips is a CD-ROM collection whose unique animated frames belong in the hands of serious computer animators.

The Good, the Bad and the Freeze Frame

A Paint and Switcher Project

by George Avgerakis

I admit it. I wake up early on Saturday mornings to watch cartoons. I like the Warner classics. I desperately want to do an article on the folks that make *Reboot*. I even love the commercials for Bubbliscious and, of course, I firmly believe in eating even part of a well-balanced breakfast.

So naturally, whenever the opportunity arises to employ cartoon logic in a production, I shout, "Meeb-meep," and dash forward with pen and mouse.

Here's a clever effect that you've seen hundreds of times in cartoons and even occasionally in sitcoms. Your main character has a moral dilemma and must choose between good and bad. As the character ponders, a little angel appears on one shoulder and admonishes him to do the right thing. Then, a little devil, complete with pitchfork, appears on the opposite shoulder and tells the character to follow his baser instincts.

We wanted to create this effect with the Toaster for a recent sales training video, in which the script called for the salesman to decide whether or not he was going to do his best to sell, or take the lazy route.

Figure 1: Decisions, decisions. The angel has landed on the shoulder of our indecisive central character.

Figure 2: Not to be outbid, the devil makes his appearance as well.

Luckily, this idea came up during the shoot, so we were able to frame specific shots for the effect. This framing was essential, because we wanted both the angel and the devil to have the same face as the character himself! With a little planning, you can do this effect even better than we did. You don't even need a three-machine editing system. We've figured out how to get by with two machines.

At the Shoot

The first step is to shoot three scenes that match, as much as possible, in terms of background and camera position. First, shoot the center character, who will dominate the scene. Of course, you will need to frame the actor's head and shoulders. You also need to estimate enough room on the right and left for the cartoon characters. (The final effect is shown in Figures 1 and 2.)

Whatever your script dictates, at some point the character will have to look to the right (at the angel), to the left (at the devil), and then at the camera, as if to ask for the audience's suggestion. (I prefer left for devils because the Latin word for evil, "sinestre," also means "left.")

Begin the setup by selecting a background that is low in detail and light your actor with good backlight to separate the outline of his body from the background. Also make sure that you have a lot of distance between the camera and the background. Once you get the position set up correctly, do two things: Mark the spot on the floor where the actor must stand. Then take a grease-pencil and draw his outline on the monitor.

Move your actor into each of the cartoon positions. Now you know why you need to have a lot of distance between the camera and the background. The actor has to stand far enough from the camera to appear small enough to be a little cartoon on the foreground image's shoulder! Of course, you may need some apple boxes to get the actor up high enough in the frame. Don't worry. Nothing in these shots will be used except the head of the actor and a bit of the background behind the head, so try to find a focus point for the lens that will serve for both the close-up and the long shots. This will avoid the need to refocus the lens, which would cause a mismatch in the appearance of the backgrounds.

Using the grease-pencil outline of the actor's head and shoulders on the monitor, move the actor around until he is sized appropriately. Then outline the devil's and the angel's positions on the monitor. These outlines provide a guideline for directing the foreground character's eyelines as he turns left and right to "look" at the devil and angel.

Now you're ready to shoot. If you have a three-machine editing system, you should shoot the angel and devil on one tape and the close-up on another tape. If you have a two-machine editing system, shoot everything on one tape.

For the close-up, make sure you rehearse the talent so that

his eyes line up with where the little characters' faces will be. Have him start by looking at the camera, then turn his head 90 degrees to one side (let's say to the angel, first) and then 180 degrees to the other side (the devil). At each position, make sure your talent parks his head still so you can make a freeze frame without the need to remove motion in the Toaster. You may want to read the copy that the devil and angel will say, especially if you're going to do this effect with three machines, but it's not 100 percent necessary.

Now tape the two little characters. Be careful not to move your camera between shots or the backgrounds won't match.

When you've shot all three scenes, you're ready to edit.

Editing Magic

The trick to editing this sequence with two machines lies in being able to freeze frame the close-up image while the angel and devil are talking. The first edit begins with the close-up talent being given the choice of good or bad. Let's say the narrator asks, "Well, Charlie, what's it gonna be—ice cream or fat-free yogurt?"

Perhaps we hear a sound effect that motivates Charlie to turn to the right, and as soon as his head is parked, we freeze the frame. If your system is SMPTE-number-equipped, write the number of the frame down. Now go into ToasterPaint. In TPaint, under the Prefs menu, select the active DV bus (the one with the *) and bring it with four fields into TPaint. Save the shot as an RGB file, named CURIGHT. Quit to the Switcher and freeze the frame where the central character is looking to the left side. Bring that into TPaint and save it as an RGB, CULEFT. Quit to Switcher and bring the angel character up on your VCR. Freeze the frame of the angel just before he starts to talk. If your system is equipped with frame-accurate code numbers, write the number of this frame down for future editing reference. Enter TPaint and bring the frame into this program.

Using this image, we want to make three graphics:

1. A "floatable" angel character with a freeze-framed actor's face, ready to speak (Figure 3).
2. A master freeze frame of the central character looking at an angel's body (Figure 4). (For reasons you will understand soon, this body does not have a head!)
3. A "keyhole" matte through which the live actor's angelic face will appear and speak (Figure 5). (If you don't understand what a matte is, don't worry—we'll get into that soon.)

First, we'll create a composited reference frame from which we can make a little angel that will always appear in the right place. Press the (J) key to switch the Amiga monitor's display to the swap screen. Now load CURIGHT. Notice that by hitting the (J) key, you can swap between the two pictures. We are going

Figure 3

Figure 4

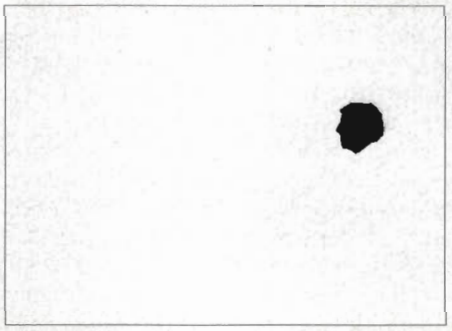


Figure 5: Notice that this matte is black on white. You can reverse the colors, but they must be full black and full white.

to composite elements from these two frames into a reference frame.

Change from "Normal" mode to "Rub Through" mode. Type (J) until you are on the frame with the small character. Choose the variable polygon tool in fill mode and cut away everything except the little character from head to toe. Be careful not to rub through any of the central character's image.

Now get creative and draw a nice angel costume over the small image of the actor's body. Keep the head, of course. The costume should just barely cover all the actor's clothing, with little sandaled feet placed over his shoes. Be careful not to allow the costume to cover any of the face of the central character.

To make the robe look realistic, we used the variable polygon tool with fill in the range mode. We assigned white as the color at one side of the palette and gray at the other side. In the Transparency menu, we chose the icon that looks like a soda can to put the highlight running vertically through the shape. Then we drew a series of tall triangles starting at the actor's neck and widening at his feet. A few of these triangles overlapping is all you need to look like an angel's robe. Then we drew a yellow halo around the actor's head. Try all this or draw your own angel. (Better yet, read my notes on new paint systems at the end of this article.) Now use the variable polygon tool in fill mode to paint black everywhere except the angel's costume and the actor's frozen head. Save this RGB frame as ANGEL.

The next step is to create a frozen angel body on the shoulder of the frozen central character. With the angel still on screen, press the (J) key and reload CURIGHT. By cutting carefully around the angel's body, you can create a composite image of the body without a head on the shoulder of the character in CURIGHT. Save this RGB as ANGELFG (for foreground).

The next step is to construct a keyhole matte for the angel character's face. This matte will be used for the Artcard Key crouton (third from the right on the bottom row of the F bus in Toaster 3.1). What? You've never used this crouton? Oooh! Stick around!

Most mattes are black and white, with either color assignable to the "want" or "don't want" status. So far, we've created two still elements that will be combined in our final master tape. Now we need two mattes for the live elements of the devil's and the angel's faces as they talk to the central character. You should build your mattes so that they replace the actor's face, with enough leeway around it to compensate for the movements the actor may make with his head during the scene. Draw a white blob over this area. Then make the rest of the scene black. (I'll leave you to your own evil devices to achieve this.)

Begin with the ANGEL image. In "Normal" mode, using the fill-variable polygon tool, carefully draw a line separating the angel's costume from the actor's head. Cover the head from this line upward with pure white color. Then make the rest of the frame pure black. Save this image as ANGMAT.

Repeat all of the steps above for the little devil character, remembering to freeze the frame before the devil starts to talk. Again, if you can, write the frame's code number down.

Now you want to know how to draw a devil? The hell with you! I've given enough secrets away already! Whatever you create, save a floatable DEVIL image that is all black except for the devil's body and actor's head. Save an image of the central character looking left to a devil body without a head (DEVILFG) and save a matte with a white blob representing the small actor's devil-head on a black background (DEVMAT).

On to the Edit

Now let's set up the effect. This is done in four separate cuts. The first cut establishes the central character, who turns and sees the angel falling onto his shoulder. This effect is done with the "Push On Down" crouton. The cut ends as the central character's head stops, facing the angel in the latter's final position. If you were appropriately equipped to have saved the SMPTE number of the precise frame, good. Enter that as the out-point of the first edit.

The frozen image where the actor is supposed to be looking at the angel. Frame all three shots to match from one camera position.

Senior animator Anthony Caviello cropped the angel's elements. Note that the author's poor direction did not take the background into effect.

The effect of the angel falling is made by loading ANGEL in DV1 and the live-action VCR output of the central character in the main bus. In the superimpose area, select DV1, press the black icon (below the buttons for DV3 and DV4), and adjust the "clip level" number until the angel appears over the VCR's image. Now select the Push On Down crouton, or any other desired effect. Click once on the fader bar, without moving it. This loads the effect and puts the VCR's output into digital mode, without actually beginning the move of the angel into the screen.

Execute your edit and, at the appropriate time, fire off the effect. I like to use the space bar, but you may have a GPI trigger the event.

The second edit has to happen exactly as the angel lands in order to distract the viewer's eye from the fact that the angel's face is a freeze frame up until the point where this cut occurs. Here is where the angel will actually speak to the central character.

Begin with ANGELFG (the central character with the angel's headless body) on the main bus (let's say in DV1). Load ANGMAT into DV2. On the Preview Bus, select an input for the live video of the small character's speaking head, and cue your VCR to the frame just before the actor speaks. This frame is the same one you froze to create the angel, remember? The outpoint of this effect should be whenever the angel finishes speaking. Select the Art Card Key crouton and then, on the Superimpose bus, select DV2 and adjust the clip level number, if necessary, until the actor's video image appears over the angel's body.

You can create another edit to transition back to the frozen ANGEL image or simply cut straight back to the live-action shot of the central character. If you cut back, the angel pops out of sight as the central character turns left to see the devil rising (from you-know-where!) into the next sequence.

Create the devil sequence exactly like the angel sequence above, using DEVIL, DEVILFG and DEVMAT. Again, let the devil simply pop out of existence, or sink him back where he'll wait until hell freezes over (or until you need to spoof another cheesy effect from the '50s).

Of course, the overall effect of this sequence is greatly enhanced by careful audio editing. In order to presage the entrance of the angel, have some harp music motivate the turn of the actor's face. Use echo on the character's voices. Add the cheers of an unseen Monty Hall audience yelling "Do the right thing!" and "Be bad! Be bad!"

Here is an opportunity to execute an effect that gets lots of laughs even if you do it poorly, because sloppiness almost makes it work better. After all, you have only one life to live and then, you, too, get to be saved as either DEVMAT or ANGMAT. Animate wisely.

New Paint Systems

While writing this tutorial, I got the chance to review two fabulous new paint programs that make this kind of assignment a whole lot easier and higher quality. One program runs under Windows and will be worth knowing if and when you follow Mojo's suggestion and augment your production studio with a PC platform. (I recommend this move also, and have a whole passel of PCs.) The other program is designed to run on Amigas and is compatible with all Toaster releases.

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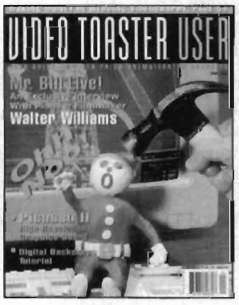

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The PC paint program is called Painter 3 from Fractal Design Corporation. It is by far the best Windows paint program I have ever used, and will absolutely knock you out from the very first minute you see it. In fact, the program comes packed in a one-gallon paint can, full of tutorials, guides, color charts, a CD with sample photos, movie clips, "image hose nozzles," and even a poster! At $499, this is the best bargain since the invention of fast-drying acrylics.

Painter 3 allows you to work full-screen in real time and has thousands of tools that seem to be infinitely variable. The "paper" texture can be changed to create canvas or paper surfaces. The paint can be watercolor wash or thick oil that you can mush about on the screen. You even have an "image hose" that lets you spray squares of sequential video frames across the screen, and these can be animated into Quicktime or Video-for-Windows movies! A paint paradise you can get lost in, Painter 3 is what you want if you're ready to graduate from Adobe Photoshop.

The Toaster paint program is InnoVision Technology's Alpha Paint. Like Painter 3, Alpha Paint is a true 32-bit system.

Although Alpha Paint is "compatible" with the Toaster, this program needs a lot of memory, and the documentation does not recommend running it while the Toaster is launched. We did it anyway without a crash, but the exercise is pointless, because the Amiga's screen goes completely black and you find yourself painting on the video buffer. Which, of course, is exactly what you want to do, right? So you'll get used to having the Toaster off, I'm sure.

Imagine painting directly on the video buffer in 16 million colors! Tools abound, like a function that makes 3D, texture-mapped title slabs, complete with highlighted edges. Text is a breeze, and all fonts—from Chroma to all of Toaster 4000's included PostScript fonts—work seamlessly. A simple routine lets you rotate text interactively, and you can even make text in a circle of your own dimension and degrees!

Alpha Paint is everything the Toasterphile has ever dreamed of in a broadcast-quality paintbox. I've worked on the Chyron Liberty system, which is the Rolls Royce of paint systems, and so far, I can't find anything Liberty can do that Alpha can't. You can soft-feather the paint effects over the video so that your angel and devil will transition seamlessly on screen.

We just got this program and already the entire staff is climbing over the monitors to try out the features. See the review on page 58 for more, but if you want the best and have the heavy $699.95 to invest, I can't imagine that even Toaster 4.0 will be better than this.

VTO

George Avgerakis is founder and creative director of Avekta Productions in New York City. Anthony Caviello, who contributed tecnical assistance to this article, is the senior animator at Avekta.

Companies mentioned:

Fractal Design Corporation
(Painter 3—$499)
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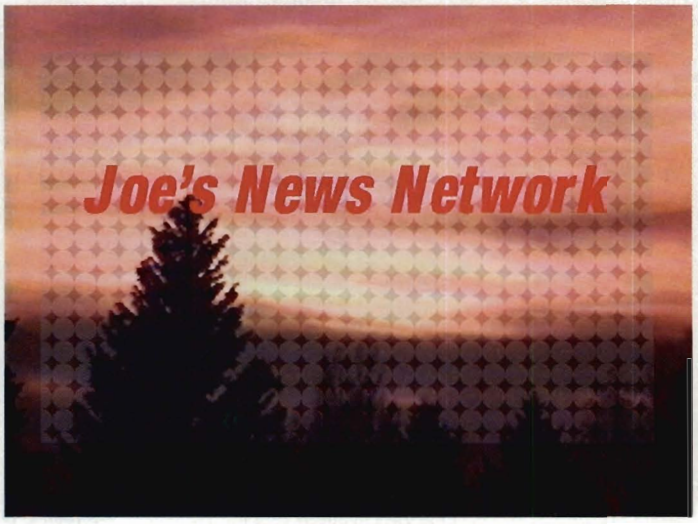
Setting the Mood

How to Create Network-Style Graphics

by Christopher Alexander

One of the easiest ways of getting good ideas for graphics is to watch what other professionals are doing. I use this technique quite a bit for putting information (for weather spots, sales ads, sports scores, etc.) on the screen. It makes the screens a little more interesting and professional-looking.



Symbiosis

Most people know that LightWave, CG and Toaster-Paint are extremely useful as individual programs, but what they do not realize is that when these elements are combined, they become more powerful than the sum of their parts. One of the nicer effects I see quite often on news programs is mood video. Mood video is not meant to grab your attention and keep it. Instead, it is used primarily to mark an area on the screen where text is to appear—i.e., it is usually just keyed under text. This technique is often used to key credits.

Building the Filter

Let's jump right in and start building the object we are going to need for this tutorial. Follow these steps carefully:

Start out with any version of LightWave. Clear out any scene you might have in memory, then go into Modeler. Drag out the face view so it fills the screen, then zoom up the grid ("." key) so it is 10 mm (Figure 1). Drag out a disc, 2 cm in diameter, on the front view (Objects menu, Figure 2). Before you click on Make or return to create the disc, bring up the numeric requester by pressing (n) while the disc button is still lit (Figure 3) and make sure the disc is 20 mm across and has 32 sides. Then array that disc to 28x21 (multiply menu, Figure 4), which we are using because of the aspect ratio of NTSC signals. Surface that object with the name "NGE-I," with no polygons selected press (q), and save the object as "NGE-I" (Objects menu). You do not really have to use 28x21; you can generally use whatever you want, just try to stick with values that will still give you the same aspect ratio that I have here. A few others would include 50x37, 14x11 and 25x19. It just depends on the look you want to give.

Back in Layout, load the object (Objects menu) and play with the surface color until you are confident it will suit your mood (blue to get thoughtful, red to inspire rage, sepia to suggest timelessness, etc.).

For our purposes we need the object to fill the entire

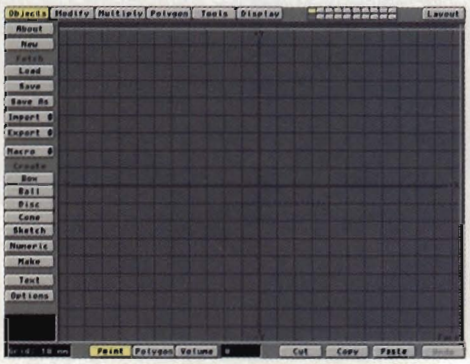


Figure 1: Modeler cleared out and ready for action.

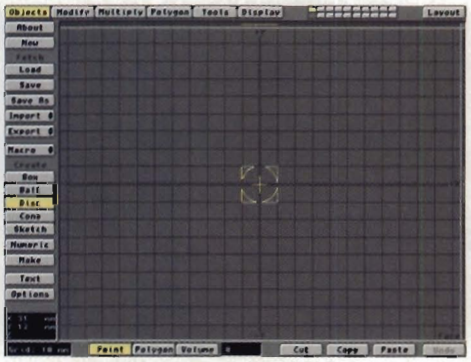


Figure 2: The disc should be 2 cm across.

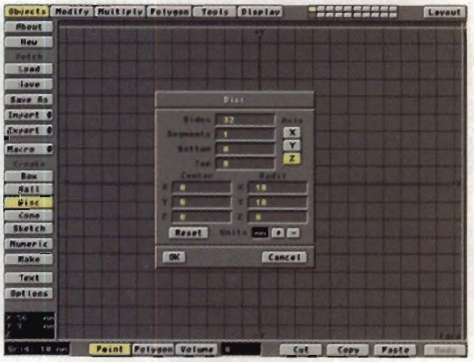


Figure 3: The numeric requester is used for checking the disc.

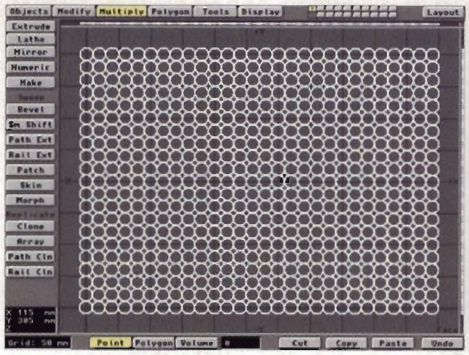


Figure 4: The completed arrayed object.

Figure 5: The object being manipulated in Layout.

screen. There are two ways to accomplish this goal:

1. Zoom the camera lens (Camera panel, Zoom button). Normally it is 3.2; change it to 4.6. Turn on "show safe area" (Options panel) and LightWave will draw a box around your object.
2. Move the camera toward the object until it fills the screen, remembering to turn on "show safe area." These are the coordinates I used to move my camera: 0.270, 0.200, -0.740 (Figure 5).

Press F9 to render a quick view of the object. When it's to your liking, set up the camera panel as follows: medium res, low antialiasing, quickshade (camera panel). Hit F10 or go back and adjust the settings until you are happy with them.

Saving the Brush

After rendering, go back to the Switcher and enter ToasterPaint. Using the right mouse button, go to the preferences menu and grab DV1 (four fields is better but not necessary). Select the filled rectangle tool, the half-filled square and the scissors, then grab a large section of the image as a brush, being careful not to exceed the maximum brush size of 752x400. (To circumvent this limit, see the ADPro technique at the end of this article.) Normally I would pick up my brush with "no background," but when adjusting the alpha channel to make your brush mostly transparent, it is not as important. TPaint still does not pick up brushes properly. Not to worry—picking up the brush with the background still intact will not hurt our application. I made my brush approximately 634x346 pixels. This does not fill the screen in CG, but it gave me just the look I was searching for. I did not want it to take over the frame, but rather accentuate it. Save the brush to disk, and be sure to remember where you saved it. Don't save it to RAM.

Fading Away

When you have the brush saved, go into ToasterCG and load your brush by selecting the add brush icon (press the box with the F on it, then press the button that looks like a paint brush with a plus symbol next to it). Lay your brush onto the screen (click on an empty part of the screen and select your brush from the pull-down list of fonts and image brushes). Make sure the page type is set to Key page, because this is to be keyed over live video, or over still images to make professional-looking CG background images for almost anything. Click on your brush, then the little palette icon. Adjust the alpha channel to about 75 out of the possible 255, and click on the center icon until your brush is centered horizontally. This provides a nice shaded look through the little discs. You can manipulate the alpha channel to whatever you want to get the look you need—e.g., a little less transparent will highlight your message a little more.

At this point you should copy this page to a couple of others and add some text onto those that are newly created. Doing this enables you to fade from one to another in Switcher. To make testing a little easier, load a still frame into TPaint and set CG to use it as a background image. Press F9 to render it to the buffer, then hit F10 to see what it looks like. If you like it, make sure it is set to a key page, then render it to disk.

Otherwise, play with the alpha channel settings until you do like it. You do not have to render it to disk, but doing so will speed up loading of the frame whenever you use it, as CG will not have to re-calculate it each time. This method can save you quite a bit of time if you use it a lot, like I do. To render it to disk, press the icon that has an arrow pointing to a disk on the main panel in CG.

Creating the Mood

After you have rendered it to disk, go back to the Switcher. Start some live video playing into input #1 of the Toaster, select input #1 on the program bus (F1) and load into the Switcher (select your pre-rendered page and press enter). Press auto (space bar) and you'll have some mood video. You can also use a static image instead of live video, which is good for displaying a bunch of information.

Use one still image and simply key different text over the alpha BG on a couple of successive frames, then fade between them.

Delving Further

There are some other ideas you can try. Instead of the discs, you could use one large box set out on the XY axis, subdivided to about 28x21, and set the polygon size to 75 percent. Or you could use a grid texture on the transparency map. You can use triangles, squares or irregular polygon shapes. Surface colors can be changed in Layout or TPaint, but it is a lot easier in Layout.

How about using Art Department Professional (ADPro) to blur the image a bit? This would result in a softer look when you overlay the image onto live video. Instead of making a large object to overlay onto video, you could create a small logo that can be keyed over live video for station IDs, program IDs, all kinds of uses. One last idea: You could stencil the letters of the station the weather bit is for right into the balls of the object we just made, and change the color of the letters so you can see them but they are still part of the object.

Cutting the Brush with ADPro

This technique is for people with a copy of the indispensable program ADPro from Elastic Reality. Instead of going into TPaint to pick up and save your image as a brush, simply save the output from CG as a framestore from the Switcher. Get ADPro up and running (you might have to quit the Toaster and cold-boot your machine to do this), load up your saved framestore and use the crop_image operator to adjust your image to 752x240 with no offsets.

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Save that image to disk as a 24-bit IFF and load up the original again. Use the crop_image operator again, as the numbers are almost exactly what we need already. Just change the Y offset to 240, and this should get us the other half of the image that we need. Now save that to disk where the first half is stored, with a different name. Go back into CG and load both brushes into memory, and lay them both out on the screen. Carefully line the top to the bottom so they just touch but do not overlap. Follow the rest of the instructions above and you should be able to cover the whole screen with your mood video.

Life in General

The following notes have been known to substantially reduce the suicide rate among video professionals:

One—How many times have you put in a couple of hours of work on a project, saved it, then done the three-finger salute to your Amiga (reboot it), only to recall that you had your work saved to the RAM disk? It is better to make a practice of saving it in a safer place, rather than having to recover from a mistake and starting the good habit later.

Two—You can use high res, medium antialiasing. It will increase the resolution of the final image a little bit, but probably not as much as you might hope.

Three—Scale for an individual object does not really matter, but it is a good idea to keep the whole object to around 1 m, especially for logos and other miscellaneous objects. It can save you a few headaches later on when you try to incorporate a few together.

Four—Set the scene to be rendered using "quickshade" (camera panel) instead of realistic, since all that is needed are the discs for keying over an image (i.e., to be used as an alpha map within a CG).

Five—If you want to have one page with just the brush by itself and you still want to be able to refer to your CG pages by name, you have to have some text on the page. I usually enter some descriptive text on the page, in a really small font and off to the bottom right of the screen, to make it non-visible on the rendered output. VTU

Chris used to work for another company, until he found out that you can get something for nothing by surfing the nets. He now owns his own company (LightSmith, 403-435-6222) and spends most of his time cleaning garlic pizza off of his mouse pad and waiting for LightWave to finish rendering.

A Quick Review

1. Make a disc 2 cm across and array it to 28x21
2. Surface it and save it
3. Load it into Layout
4. Change the surface to suit your needs
5. Zoom it up to fill the screen
6. Render it out
7. In ToasterPaint, grab the image from DV1
8. Pick it up as a brush (do not exceed 752x400)
9. Save it to disk
10. Go into CG and load up the brush
11. Change the alpha channel (75/255)
12. Add some text to the page (key page)
13. Render it to disk
14. In Switcher, overlay it on live video
15. Don't worry, be happy

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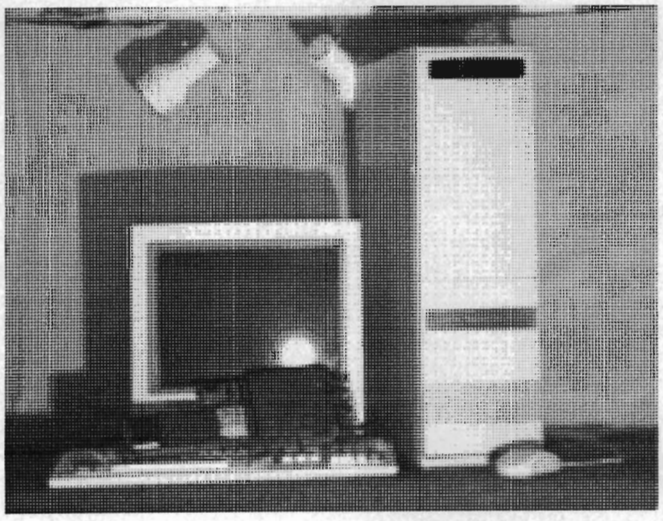

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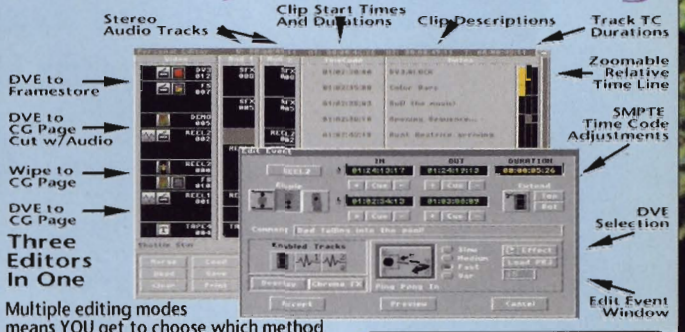


Multiple editing modes means YOU get to choose which method works for the current task at hand.

B Mode auto assemble allows you to log your sourse tapes and assembly them as you like in an EDL window, adding DVEs, CGs, & image stills.

A Mode assembly provides a fast "mark and record" method for rough cuts.

Our new Open-Edit Mode provides quick & easy Source and Recorder control for accurate cuts editing and can build an EDL on the fly for future addition of effects or stills.

PERSONAL EDITOR FEATURES

- NEW! *Now records four individual animation frames in a single recording pass using a Video Toaster at 3.2 sec/frame to record!*
- CMX List: Import & Export
- SMPTE time coded clip logging.
- A & B Mode auto-assembly.
- Pseudo A/B roll (A/X roll) w/ Toaster.
- DVE transistions/CG page functions.
- Still images: FrameStore, IFF, JPEG, in EDL.
- Split audio & match frame edits.
- 100% accurate single frame controller.

DEDICATED DIGITAL IMAGERY

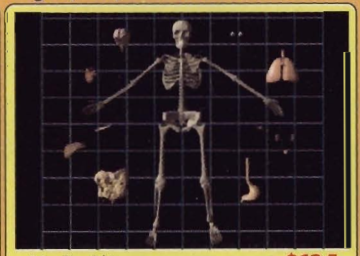
Create a 3D Virtual City with
Citybuilder $120

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

SUPER BUNDLE ALL 5 SETS $455

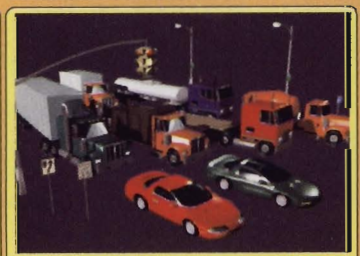
Objects are available in Lightwave3D, Imagine, DXF, and Wavefront formats.

Household Items *(50 objects)* $ 75



Medical/Anatomy *(25 objects)* $135

Space Essentials *(50 objects)* $ 95



Autos/Vehicles *(65 objects)* $ 95

Replica Technology

-Super Bundle-

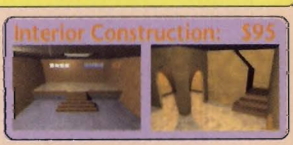
All 5 sets ONLY
$295

Interior Design 3: $45

Interior Design 1: $45

Interior Design 2: $45

Interior Construction: $95



Homes: $95

Plantation

Plantation Node License:

# of Machines	Price
2	$100
5	$150
10	$200
20	$300

Scalable Distributed Rendering for Lightwave3D!

Plantation orchestrates the rendering of Lightwave scenes by using multiple Lightwave-equipped Amigas on a network. Working in tandem, the networked computers spread the work of rendering across the entire network, decreasing rendering time and increasing productivity.

Features:

- Any Number of scenes
- Any number of machines
- Supports DPS-PAR
- Attractive Intuition Interface
- Upgradable Node license
- Scene Manager
- Supported Networks: ENLAN, Envoy, Parnet, & AmiTCP (with NFS)

such as the Atlas SB-36W. These booms are intended for stationary use. Far more expensive crane-style boom systems used in network TV studios provide the ultimate luxury: total flexibility to extend the boom and face the microphone using remote-control levers and cranks. These booms are commonly used in big TV studios for talk shows and variety programs, where extremely wide shots of the stage would make use of fishpoles impossible (without showing a sound recordist holding one).

Desk Stands

Just turn on your TV around midnight and you'll catch perhaps the most-seen form of microphone stand: the desk stand. It's a staple of such programs as *The Late Show With David Letterman* and *The Tonight Show*. Though they can look charming, harken back to an earlier, simpler era of broadcasting, and do an excellent job of placing the microphone right in front of the person's mouth, desk stands are not without their drawbacks.

The most common problem you're likely to encounter is the pickup of a loud thumping sound every time the talent taps a pencil on the desk, bumps into it with his or her feet, leans on it, or touches in it any way. And though use of a shock mount can help alleviate this problem, it may tend to block the audience's view of the host, and make the whole setup look rather clumsy. Some desk stands, such as the VDS-2 from Quality Video Supply (about $25), incorporate a built-in shock absorption system in the base to help get around this problem.

"The desk microphone is an essential subliminal element in the sound design of programs like *The Tonight Show*."

Desk stands are also notorious for creating hot spots in the picture, since they're usually made of chrome. You may want to consider carefully wrapping dull black tape around the chrome tube, to keep lights from reflecting back into the camera.

In his fascinating book, "The Responsive Chord," advertising pioneer Tony Schwartz argues that the desk microphone is an essential subliminal element in the sound design of programs like *The Tonight Show*, because it places the microphone closer to the mouth of the host than the overhead boom gets to the guests' mouths. This helps create the feeling that the host is closer to the home audience than the guests, thus serving as an acoustic intermediary who helps to sonically break the ice as he brings this parade of new people into our living room night after night.

In this context, deciding what type of microphone mounting to use for each recording situation becomes much more involved than merely determining how to get a good signal. It also involves deciding what kind of feeling you want to project. Pretty heady stuff for a pole, eh?

VTU

CD-ROM continued from page 71

results. Three of six packages in their Volume V ensemble are either available now or will be soon: Backgrounds; Globes, Maps and Flags; and Holiday and Christmas. If you purchase any Volume V package, you can buy individual animations afterward.

If I were to describe DAC's work, I would say that it is very deftly crafted to be suitable for visual appreciation without detracting from whatever text or sandwiched video you might combine with it. It is excellent for transitions and great for credits/intro backgrounds. The look in most cases is very stylishly abstract and colorful.

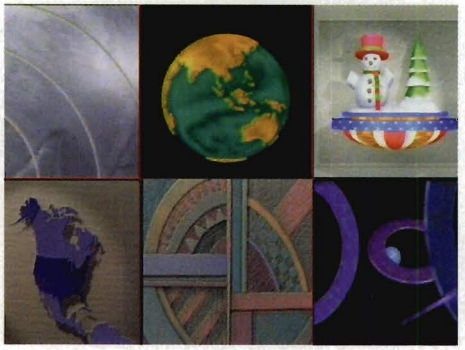
VTU

Companies mentioned:

Asimware Innovations
(Texture Heaven 2—$79.95)
101 Country Club Drive
Hamilton, Ontario
Canada L8K 5W4
(905) 578-4916
Fax (905) 578-3966
FOR INFORMATION CIRCLE 22

Specular International
(Replicas—$199)
479 West St.
Amherst, MA 01004
(413) 253-3100
FOR INFORMATION CIRCLE 23

The LIGHT-ROM CD from Fred Fish offers a wealth of textures and images in addition to LightWave objects.



Digital Animation Corporation's images aren't on CD-ROM yet, but are offered on all videotape formats.

Accadia Electronic Arts
(Motion Clips—$149.95)
Buffalo, NY 14213-1413
(716) 881-5215
Fax (716) 882-1774
FOR INFORMATION CIRCLE 24

Fred Fish (Amiga Library Services)
(LIGHT-ROM—$39.95)
610 N. Alma School Rd., Ste. 18
Chandler, AZ 85224-3687
(602) 917-0917 Voice/Fax
FOR INFORMATION CIRCLE 25

Digital Animation Corporation
(Broadcast Images and Animation, Volume V packages—$395 each, plus dub cost and tape stock)
24445 Northwestern Highway,
Ste. 105
Southfield, MI 48075
(800) 572-0098
Fax (810) 354-0796
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OR FAX (24 HOURS): 800-947-9003 212-444-5001

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Panasonic

AG-3
3-CCD S-VHS-C CAMCORDER

- Three 1/3" CCD image sensor system delivers over 530 lines of horizontal resolution
- New 10:1 2-speed zoom lens 6-60mm F1.6 with automatic and manual zoom. Also features 20:1 digital zoom.
- High resolution color viewfinder lets you preview and shoot scenes exactly as they are
- Built-in digital TBC (Time Base Corrector) eliminates jitter and skew and assures stable, distortion-free playback
- **Digital Mix** – for soft fade-over between memorized still and moving images.
- **Digital Still** – freeze a scene for as long as you like
- **Digital Gain-Up** – delivers clear, distinct images in low-light levels, even down to 1 lux!
- **Digital Strobe & Digital Wipe** – add professional effects.

AG-455
2-HOUR S-VHS CAMCORDER

- Laminated amorphous heads assure exceptional picture quality, high resolution, and superb color reproduction.
- 12:1 power zoom lens with continuously variable speed zoom
- Hi-fi stereo and linear track for recording. Also has "Audio Out" select switch for Hi-fi/Normal/Mix combinations. High performance stereo zoom microphone features three different settings: Wide, Telephoto or automatic zoom.
- Built-in VITC (Vertical Interval Time Code) time code generator for frame accurate editing
- Audio/Video fade-In /fade-Out for smooth, professional transitions
- Automatic iris and manual control for fine adjustment
- **Digital Mix** – soft fade-over between memorized images
- **Digital Tracer** – to add an after-image effect to moving subjects
- **Digital Still** – freeze a scene for as long as you like, without interrupting sound recording
- **Digital Gain-Up** – delivers clear, distinct images in low-light levels
- **Digital Strobe & Digital Wipe** – add professional effects to your shooting.

AG-DP800 SUPERCAM
S-VHS 3-CCD Digital Signal Processing Camcorder

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

NEW! WV-F565
Digital Signal Processing 3-CCD Dockable Camera

The WV-F565 is a revolutionary camera that sets new price/performance standards for a CCD camera - either 1/2" or 2/3". Equipped with three 1/2" HS-FIT (High Sensitivity - Frame Interline Transfer) CCDs, the WV-F565 delivers an unbelievable 850 lines of horizontal resolution and an unprecedented 65dB signal-to-noise ratio. It also provides a minimum illumination of just 1 lux and 600% highlight compression. It docks directly to S-VHS and MII and with adapter can dock to Betacam SP. The camera can be used in a studio configuration and there are four remote control options.

REVOLUTIONARY PERFORMANCE LEVELS
The WV-F565 achieves new levels of performance. It provides 850 lines of Horizontal Resolution, 65dB Signal-to-Noise, and 1 Lux Minimum Illumination- specifications unheard of in today's professional CCD Cameras.

NEW HS-FIT CCD
A key element to the new levels of performance achieved by the WV-F565 is Panasonic's new High-Sensitivity FIT CCD. As with other Frame-Interline Transfer (FIT) chips, the HS-FIT virtually eliminates the vertical smear associated with CCD's. In fact, the F565's smear reduction is measured at -125dB — better than even the most expensive cameras.

CLEAN-DNR DIGITAL NOISE REDUCTION
The WV-F565 utilizes a newly developed algorithm to reduce noise without any of the image blur or deteriorating image resolution that is conventionally associated with DNR technology. This clean-DNR feature is what allows the WV-F565 to achieve a 65dB signal-to-noise-ratio.

"NIGHT-EYE" MODE WITH DUAL PIXEL READOUT
In extremely challenging lighting conditions, the WV-F565's Night-Eye Mode is unique. In this mode, the camera uses a dual pixel readout to simulate 36dB gain. The camera's high signal-to-noise ratio helps to create a very usable picture at this gain level. This allows the WV-F565 to virtually see in the dark.

ADAPTIVE SCENE FILES
As with all Panasonic DSP cameras, the WV-F565 has Scene Files that allow you to optimize the camera's performance for shooting conditions. The WV-F565's Adaptive Scene Files let you make quick adjustments that can compensate for lighting conditions, flesh tones, contrast and detail. There are no less than 5 different scene files.

I-VECTOR NOISE SUPPRESSION
The I-vector on a vectorscope runs through the red and yellow areas, the colors associated with flesh tones. By reducing noise and detail along the I-vector, the WV-F565 can give flesh tones a softer look – without effecting other areas of the picture.

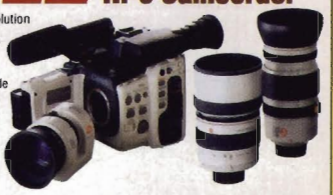
DIGITAL HIGH-LIGHT CHROMA
When shooting in bright lighting, it's easy for color to get washed out in high glare areas. With High-Light Chroma, the WV-F565 can add color gain only in the washed out areas, restoring color and detail without affecting other areas of the picture.

PRECISION DETAIL
Detail enhancement sometimes adds unwanted artifacts to the picture. In the WV-F565, Precision Detail makes the detail enhancement look less "harsh", thus allowing you to increase detail without the artifacts.

SWITCH SENSOR
How often have you missed part of a shot because you were fumbling for the gain or the white balance switch? With Panasonic's Switch Sensor function, you simply touch the switch and you get an indication in the viewfinder that tells you exactly which switch your finger is on.

ADVANCED REMOTE CONTROL CAPABILITIES
The WV-F565 has four (4) different types of remote systems: The WV-RC709A is a full function studio remote that offers either 26-pin multicore or multiplex control. Multiplex control lets you control most of the camera's functions via a single coaxial cable. With the WV-RC550, you can operate the camera in the multicore mode only, but it is much more cost effective. With the WV-CB700, all of the camera's control functions are now in a hand held remote control box. Finally, the WJ-PC500 allows for control via RS-232C or RS-422 computer control.

Canon L2 Hi-8 Camcorder



- 1/2" CCD with 410,000 pixels delivers over 450 lines of horizontal resolution
- VL Mount System allows use of a full range of interchangeable lenses from extrawide angle to super telephoto plus, optional EOS-VL adapter allows mounting of over 65 Canon EOS 35mm Autofocus lenses.
- Records RC Time Code while shooting and can also "stripe" RC Time Code to tapes already recorded on other equipment. With RC Time Code the L2 can connect to an edit controller with RC Time Code capability for frame accurate editing.
- Advanced encoding functions mean the L2 can record much more than audio and video. It will mark tapes for speedy identification, and even find recordings by their date.
- Provides stunning AFM stereo with the choice of auto or manual level control. To match the audio with video the L2 has a high performance stereo/zoom microphone.
- High speed Piezo autofocus allows focusing through glass or water. Also provides focus lock and manual focusing.
- Provides two different grips with independent start/stop and zoom controls. Built-in sports finder lets you view the viewfinder from arm's length away.
- Built-in character generator lets you superimpose two lines of up to 16 characters on your recordings. There is also a choice of three date and time displays.
- Variable high-speed shutter from 1/100 to 1/10,000 of a sec.
- Includes a wireless controller which to make it a highly sophisticated edit deck.
- Automatic exposure plus manual control lets you lock the aperture at any setting from fully stopped down to fully open.
- The L2 has a variety of special effects. Add an extra dimension to your video productions with digital image manipulation and striking scene transitions;
  Close-up – instantly doubles the magnification of the lens
  Slow shutter – 4 slow shutter speeds allow recording in light as low as 0.5 lux or adds artistic after-images to selected scenes.
  Overlap – (dissolve) Slowly dissolve from the last frame of the preceding scene to the action being recorded.
  Freeze – freezes the picture while sound recording continues uninterrupted.
  Art Freeze – records your scenes as colorful paint-like images.
  Strobe and Art playback modes – six-speed strobe playback can be combined with three levels of solarization effects.

SONY

EVW-300 3-CCD Hi-8 Camcorder

- Equipped with three high density 1/2" IT Hyper HAD image sensors. Has an excellent sensitivity of F8.0 at 2,000 lux, high S/N of 60 dB, and delivers over 700 lines of horizontal resolution.
- PCM digital stereo and single channel AFM Hi-Fi recording. XLR balanced audio connectors.
- Quick start 1.5" viewfinder with 550 lines of resolution plus Zebra pattern video level indicator and color bar generator. Also, quick-start recording – takes only 0.5 seconds to go from REC PAUSE to REC MODE for immediate recording in the field
- Built-in 8mm Time Code generator records absolute addresses. (Either non-drop frame or drop frame mode may be selected.) Furthermore the EVW-300 incorporates a variety of time code features such as Time Code PRESET/RESET, REC RUN/FREE RUN and User Bits.
- A variety of automatic adjustment functions for different lighting conditions are incorporated into the EVW-300:
  - ATW (Auto Trace White Balance) – when ATW is turned on optimum white balance is always ensured during recording, even for changes in color temperature. Conventional white balance adjustment is still provided with the Auto White Balance.
  - AGC (Automatic Gain Control) – in addition to manual Gain Up AGC provides linear gain up in the range of 0 dB to 18 dB.
  - Intelligent Auto Iris – for situations where the lighting between subject and background is different (subject is underexposed) the Intelligent Auto Iris automatically examines the scene and adjusts the lens iris for proper exposure.
- Selectable Gain-up from 1 dB to 18 dB in 1 dB steps for Mid and High positions.
- Clear Scan function – provides a variety of selection of shutter speeds ranging from 60-200 Hz allowing recording of almost any computer display without flicker.
- Compact, lightweight (12 lbs with NP-1B) ergonomic design provides well balanced and extremely comfortable operation.

EVW-300 with Canon 13:1 Servo Zoom Lens, VCT-12 Tripod Mounting Plate and Thermodyne LC-422TH Shipping/Carrying Case $5495.00

JVC

NEW! GY-X2B 3-CCD S-VHS Camcorder

- Newly designed three 1/2" CCD image sensors deliver 750 lines of horizontal resolution and superb signal-to-noise ratio of 62dB
- New micro-lens technology provides exceptional sensitivity of F7.0 at 2000 lux and LOLUX mode lets you shoot with almost no light! Shoot superb footage with excellent color balance at a mere 1.5 lux
- Variable Scan View allows flicker-free shooting of a computer monitor.
- Quick Record Mode - when turned on the camera is set to the auto iris even if lens is set at manual. Also activated is (ALC) Automatic Level Control and EEI Extended Electronic Iris which provides both variable gain and variable shutter. Now you can shoot continuously from dark room to bright outdoors without having to adjust gain, iris or ND filter.
- Full Time Auto White circuit lets you move from incandescent to fluorescent to outdoor lighting without changing white balance or the filter wheel. • Genlock input allow synchronization with other cameras.
- Dual output system allows camera output to be connected directly to an external recorder

TOSHIBA

TSC-100G
3 CCD Hi-8 Camcorder

- Three ½" CCD chips mounted with spatial offset technology deliver resolution of 700 horizontal lines
- Low noise design provides extreme sensitivity of F8.0 at 2000 lux. Min. illumination 7.5 lux with excellent color reproduction
- New LNA (low noise amplifier) delivers a S/N (signal-to-noise) ratio of 62dB - the highest achieved for this type of camera
- Quick-start 1.5" viewfinder needs no warm up time. Zebra pattern in the viewfinder alerts operator to excessive video levels.
- Genlock capability allows synchronization with other cameras. Full calibration functions are built-in as well as color bar generator.
- Variable high speed shutter from 1/60 to 1/2000 second
- Built-in 8mm time code generator records an absolute address to every frame.
- High-performance back-electret condenser mic records to all three audio tracks. Low cut filter eliminates wind noise.
- Very low power consumption: Draws only 16 watts per hour allowing 100 minutes of recording time with 1 NP-1B battery.
- Body made of magnesium alloy previously found only on broadcast cameras. Still only 13 lbs. in standard configuration.

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SANYO

GVR-S950 S-VHS Single Frame Recording VCR

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

NEW! GVR-S955

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

JVC

S-VHS EDIT-DESK SYSTEM

BR-S500U Player • BR-S800U Edit Recorder
RM-G800U Edit Controller

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

OPEN ARCHITECTURE

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

CONTROL TRACK TIME CODE SYSTEM

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

SUPERB VIDEO PERFORMANCE

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

32X VARIABLE-SPEED SEARCH

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

FOUR-TRACK AUDIO

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

RM-G800U EDIT CONTROLLER

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

BR-S622U/BR-S822U

S-VHS Feeder Recorder/S-VHS Editing Recorder

The BR-S622U and BR-S822U meet the most sophisticated broadcast level requirements. They are equipped with flying pre-rec amp, digital DOC, digital Y/C separator, high precision CNR, improved chroma enhancer, and more. Their "Open-Ended System Architecture" lets you choose from a variety of optional circuit boards and plug-in modules, including a time-code reader/generator, TBC with component out, and several remote control interfaces. They also have a full range of advanced editing functions, including direct player control, precision search/jog dials, RS-422 interface, high-speed search at up to 32x, and a tiltable control panel.

- Built-in digital Dropout Compensator (DOC) performs dropout compensation for the luminance signal on an all-digital basis. With chroma dropout compensation also being performed you get a stable, high-quality picture.
- An SC leak canceler detects and removes very low-level chroma signals on leaked carriers without interfering with overall signal quality. This helps eliminate much of the deterioration often noticed in repeated dubbing.
- Equipped with high-precision Chroma Noise Reducer (CNR). It conducts chroma noise detection on a pixel-by-pixel basis, allowing it to completely eliminate the color streaking normally caused by lags in CNR phase adjustment. This ensures a much-improved chroma signal-to-noise ratio in playback.
- Luminance Signal Enhancer allows you to select frequency responses of 0 dB, +2 dB, and +4 dB with the luminance signal at 2.5 MHz. High resolution is maintained even in multi-generational dubbing. Automatic equalizer prevents deterioration of the luminance signal frequency response when using overplayed tapes.
- A Capstan Bump Function operates during preroll. This assures precise synchronization of the player and recorder during editing. This function can be set to operate at either the player or recorder.
- Features a built-in black burst signal generator. Preparing a black master tape for insert editing is now a simple matter of inserting a blank tape and pressing a button.
- Two Hi-Fi stereo audio channels with a wide frequency response and dynamic range of more than 90 dB. Two linear tracks with Dolby NR (Noise Reduction) are also provided. Audio output is selectable between Hi-Fi and the linear tracks while an audio monitor select switch allows independent monitoring of the Hi-Fi or the linear track. Separate or combined L/R channel monitoring is also possible. Four recording level controls permit separate adjustment of all audio channels in recording.
- On-Screen Menu system with built-in memory which allows simple dial setting and switching of most basic functions while referring to the counter or on-screen display. Mode selection and initialization are all possible via the menu display. Over 70 items are selectable including frame servo, TBC mode, Hi-Fi recording, audio limiter, and preroll times. On-screen warning indications are also provided.
- The BR-S822U has a comprehensive set of editing functions including automatic or manual insert and assemble editing. Editing features include Go-to, Pre-roll, Preview, and Review, providing high-performance cuts-only editing even without a controller.
- The BR-S822U features built-in machine-to-machine editing control capability. This permits control of any deck with RS-422 control directly from the BR-S822U. Player/Recorder select buttons are provided, and time code or CTL readings from the controlled player are displayed on the BR-S822U's counter display. You control all operations including search, FF, REW, edit point entry, and more.

Panasonic

AG-1290 VHS Video Cassette Recorder

- Four head system provides jitter-free play in Double Super Fine Slow mode. Also offers noise-free Double Speed Playback and Frame Advance.
- Quasi S-VHS playback – playback S-VHS tapes at standard VHS resolution.
- Digital Tracking enhances quality of on-screen picture by automatically adjusting tracking during playback.
- The Quick-Play mechanism keeps the tape fully loaded around the head cylinder and maintains the rotation speed of the head cylinder while in Stop mode. As a result, it only takes about 2 seconds for the picture to appear when going from Stop to Play/Rec mode.
- Built-in head cleaner automatically cleans the video heads as soon as a tape is inserted or ejected.
- On-Screen Display of useful information, such as operating mode, date calendar, instructions for setting the 1-month, 4 program calendar/timer, the initial channel setting, and Standby OTR programming.
- Also features: 181-channel tuner, full digital quartz timing, real-time counter, Auto repeat/Auto playback, Standby OTR.

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

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

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

AG-1970 S-VHS Hi-Fi Editing VCR

- Uses Amorphous video heads which are superior to conventional ferrite heads and deliver rich, vibrant color reproduction and a high S/N ratio.
- Built-in Digital Time Base Corrector effectively eliminates jitter and distortion. Playback is high quality, stable and with natural colors.
- Two Hi-Fi stereo tracks with a frequency response from 20Hz to 20,000 Hz and a 90 dB dynamic range. (Has one linear audio track.) Also has stereo recording level control, headphone monitor terminal and mic input terminal.
- Does assemble edit, video insert and audio dub. Flying erase head for smooth, clean, seamless edits.
- 5-pin edit terminal makes it easy to set up an editing system.
- Jog/shuttle Dial for varied playback from slow motion to high-speed search (shuttle) and frame-by-frame picture control in forward and reverse (Jog).
- Outputs the audio track during search operations for cuing and quick confirmation of audio recording.
- What makes the AG-1970 the perfect editing VCR? The advanced dual-loading mechanism features a quick response time, exceptional tape protection, remarkable tape control accuracy - all make for outstanding editing precision and ease.
- Automatic head cleaner removes dust and other particles from the heads to help maintain optimum performance.

AG-DS840/AG-DS850

S-VHS DIGITAL Slow-Motion Editing System

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

MII "W-Series" AU-W32H/W33H/W35H

For years, Panasonic's MII VCRs have consistently brought professionals the superior broadcast quality of component recording. Now the "W-Series" brings the power of component recording to an ever wider range of users. They are equipped with 3-D type TBC for exceptional playback stability and excellent dropout compensation and they each feature color framing - essential for animation and editing.

- Uses true component recording technology, with separate tracks for the luminance (Y) and chrominance (C) signals. Delivers vivid colors and super sharp details— thanks to the full 4.5 MHz luminance bandwidth.
- Each is equipped with a digital 3-dimensional type TBC boasting a correction range of one full field (262.5 H lines). Continuously retains an entire video field of information in memory, and is used for 3-D processing, providing excellent dropout compensation and eliminating horizontal and vertical jitter.
- All models have 4 high-quality audio channels — 2 Hi-Fi channels, with dynamic range of 85 dB and 2 linear channels with Dolby NR.
- "W-Series" models offer high precision time code editing, with ± 0 frame accuracy. Both players include a SMPTE time code reader, while the AU-W35H has a time code reader/generator. The AU-W35H records VITC and LTC separately, and MII VCRs automatically switch between them during playback, according to tape speed, for consistent, reliable time code identification. User bits are recorded in either LTC or VITC (or both), with the capability of making either one (or both) an internally generated time of day clock.
- AT (Auto Tracking) is a standard feature on the AU-W33H player. When used with an edit controller or the AG-A300 Slow Motion Controller, the AU-W33H provides noiseless still, slow-motion and quick-motion playback with a range of -1x to 2x normal speed. It also allows fine control over playback speed – highly effective for situations where "fit and fill" capability is required.
- They allow TBC adjustment on the VCRs itself. Conveniently located adjustment knobs for all TBC controls, including video level, chroma level, chroma phase, setup level sync and subcarrier phase. A 15-pin terminal allows external TBC remote control.

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B&H PHOTO-VIDEO

SONY

CVD-1000 Vdeck Hi-8 Computer VCR

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

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

EVO-9720

Hi8 Dual Desktop Editing Machine

BUILT-IN EDITING CAPABILITIES

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

SUPERIOR PICTURE QUALITY

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

A/B ROLL EXPANSION CAPABILITY

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

ADDITIONAL FEATURES

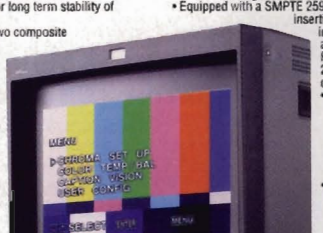
- To provide for smoother transitions from scene to scene, the EVO-9720 has a video fader. Black or white fading can be selected as well as a duration time of 0.5 or 2 seconds.
- There is a GPI (General Purpose Interface) output with timing adjustment for controlling external devices. External devices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

COLOR MONITORS

PVM-1350

13˝ Presentation Monitor

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



PVM-1351Q

13˝ Production Monitor

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

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

PVM-1354Q/PVM-1954Q

13˝ and 19˝ Production Monitors

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

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

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SONY

NEW! SVP-5600 and SVO-5800

S-VHS Player/ S-VHS Editing Recorder

SVP-5600 and SVO-5800 features:

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

ADVANCED EDITING FUNCTIONS

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

FOUR CHANNEL AUDIO SYSTEM

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

MULTIPLE INPUTS AND OUTPUTS

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

USER FRIENDLY OPERATION

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

REBATES: Buy an SVP-5600 or SVO-5800 Professional S-VHS VCR or UVW-1600, UVW-1800, Betacam SP VCR with:

- **Sony PVE-500 A/B Roll Edit Controller and receive $500 instant rebate!**
- **Sony FXE-100 A/B Roll Edit Controller/SEG and receive $1000 instant rebate!**
- **Sony DFS-300 Switcher/SEG and receive $2000 instant rebate!**

EVO-9650 Hi-8 Single Frame Recording VCR

- Facilitates fast and accurate single frame recording which is indispensable for animation creation. With a short 3-second pre-roll the EVO-9650 is twice as fast as any other machine.
- Built-in RS-232 interface directly connects the EVO-9650 to an external computer, allowing all of the VCR operation commands to be directly communicated to the computer. The RS-232 baud rate can be selected from 9600/4800/ 2400/1200 bps.
- There is separate DNR circuitry for both the Y (luminance) and C (chrominance) signals providing playback of superior images.
- Fully compatible with the Video Toaster 4000, no single frame controller required. Most animation programs work directly without a controller. They include Autodesk 3-D Studio, Crystal Graphics Topaz, BYTE-by-BYTE Sculpt 4-D etc.
- Provides a variety of digital effects like 3x3 matrix display, 2x zoom and 1/30, 1/10, 1/5, 1/3 times normal speed in a noiseless slow motion playback
- Incorporates a memory device for frame/field storage to provide an accurate frame image in recording and playback. This memory can be used in either the BUFFER or the DNR mode.
  - **–DNR** (Digital Noise Reducer) A clear and stable picture is played back with no guard band noise and no picture movement. Field or frame can be selected. DNR mode is great for image analysis and medical applications.
  - **–BUFFER** for fast recording of sequential frames. Stores a frame in its buffer thus freeing up the computer to proceed immediately to the next frame. During this time the EVO-9650 performs its pre-roll and edit functions. This effectively cuts in half the time needed for single frame recording
- Built-in 8mm time code generator records an absolute address on every frame allowing absolute frame accuracy.
- Additional audio, such as music or commentary, can be dubbed to existing video. Audio is recorded on the PCM sound track.
- Optional EVBK-65 RGB encoder board allows the EVO-9650 to accept RGB signals, ensuring optimum picture quality recording.
- Optional EVBK-66 VISCA interface board allows communication with ViSCA control signals. The EVBK-66 translates VISCA control signals into the Sony standard RS-232C protocol.
- Supplied RM-9650 Remote Control covers not only basic functions, but also provides digital special effects, assemble/ insert editing and jog/shuttle picture search up to 19x normal speeds.

EVO-9850 Hi8 Editing Recorder

- For enhanced picture quality, there is a built-in digital noise reducer for both the chrominance and luminance signals. In the CNR (Chrominance Noise Reducer) mode you can select low or high level of noise reduction according to picture conditions.
- Equipped with four channels of audio. Two AFM Hi-Fi stereo tracks plus two PCM digital stereo tracks. Each channel has balanced XLR inputs and outputs, plus there is individual level volumes for each track
- Assemble and insert editing modes. In the insert mode there is independent editing of video, PCM-1, PCM-2 and time code.
- Built-in TBC (Time Base Corrector). With TBC the EVO-9850 outputs highly stable video signals. A digital drop-out compensator is also built-in. TBC adjustments can also be remotely controlled with the optional BVR-55 TBC Remote Control Unit.
- Absolute frame accuracy for video editing and single frame recording. Accuracy of ±0 frames is achieved with advanced servo system, quick response mechanism and built-in 8mm time code reader/generator.
- The EVO-9850 is equipped with a built-in 8mm time code generator. Since the 8mm time code is recorded between the video and the PCM audio tracks in a separate and dedicated location, 8mm time code insertion or overwrite is possible without losing a generation. An RS-422 9-pin connector is utilized for communicating edit command and time code data. The 8mm time code is output as SMPTE time code through the RS-422 connection to the edit controller.
- With the optional EVBK-100 the EVO-9850 inputs and outputs SMPTE time code data via BNC connectors. Accordingly the EVO-9850 can feed time code to another VCR or can lock to an external time code.
- The Jog/Shuttle mode provides high speed picture search from -17 to 17 times normal speed.
- To minimize picture deterioration during the editing process, the EVO-9850 incorporates Dub In/Out (7-pin) connectors.
- With the optional RMM-980, the EVO-9850 can be installed into a 19-inch EIA standard rack.
- External sync input to lock onto external reference video signals. This allows for synchronization with other video equipment.
- For customized operation there is a Dial Menu. You can set VCR operation modes like time code preset, time code superimpose, self-diagnostics display, with the search dial.

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Alpha Paint is the all-in-one professional paint solution for the Video Toaster with NO additional utilities, programs, Chip RAM upgrades required.

FutureVideo
V-STATION 3300 for Toaster
A/B Roll Edit Controller

- V-Station 3300 for Toaster is an integrated software and hardware solution for precise A/B Roll editing on your Amiga/Toaster system. The advanced multi-tasking, multiple-event A/B Roll editing software provides you with direct communication and control over your Video Toaster. The three VTR controller unit provides the neccessary machine control and computer interface.
- The V-Station 3300 for Toaster system fully integrates the power of A/B roll multi-event edit control with the versatility of the Video Toaster's effects, framestores, and character generation. You'll appreciate the easy-to-read software screens and the comprehensive online help system.
- Provides true A/B roll editing even with low-end industrial and prosumer VCRs. Various VCRs using Panasonic's 5-pin or Sony Control-L editing protocol can be used. Optional VTR Driver kits provide compatibility with VCRs using VISCA, RS-232 and RS-422 serial control protocols.
- Reads RC time code and with optional SMPTE LTC option can read SMPTE time code for frame accurate editing.

The KitchenSync
Dual Channel TBC

- Two complete infinite window time base correctors on one IBM AT/Amiga compatible card
- Plugs into any Amiga or PC compatible
- Use more than one Kitchen Sync linked together to synchronize even more channels.
- S-VHS and Hi-8 compatible. Has S-video input with option for S-video out
- Complete 100% accurate sync generator built-in. Totally regenerates all sync and blanking signals.
- Absolute 100% broadcast quality output
- Built-in Proc amp with Hue, Saturation, Contrast and Brightness adjustments
- Complete digital design – no pot adjustments necessary. The Kitchen Sync is completely microprocessor controlled
- Advanced sync output – useful with any VCR capable of taking an Advanced Sync in. **1279.00**

HOTRONIC AP41
STAND ALONE TBC/ FRAME SYNCHRONIZER

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

AP41-SF

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

AP41-SP

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

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The Ultimate 3D Rendering and Animation System for Broadcast Graphics

LightWave 3D offers all the high-end features you need to produce network-quality graphics. You can model, render, surface and animate three-dimensional graphics, all from within a single straightforward environment. Everything from flying logos and scientific visualization to the most sophisticated effects seen on television are now available on your desktop. Lightwave consists of two powerful programs in one easy-to-use package:

- Creating objects is simple with LightWave Modeler. PostScript fonts allow you to generate 3D text easily. You can construct models by combining built-in primitive shapes, or by using Modeler's freehand draw functions. Tools like Lathe or Extrude add depth to 2D shapes. Boolean functions let you cut and combine objects. LightWave Modeler gives you ten different modeling layers to work in. Powerful tools like magnet, bevel, and clone are all available.
- LightWave Layout lets you design the perfect scene. You can load and position objects, edit surfaces , and design dramatic lighting effects and camera moves. You can even include spectacular effects like lens flare, fog, or depth of field. Bring 3D characters to life simply by using the object parenting and bones features. Check your scenes by creating wire frame preview animations that you can play back in real time. Render still images or entire animations in up to 16.8 million colors.

Toaster FLYER TAPELESS EDITOR

No editing system in the world compares to the quality, price, and ease of use of NewTek's revolutionary new Video Toaster Flyer. The Flyer is a D2, broadcast-quality, tapeless nonlinear edit system that costs under $5,000. Forget the hassle of hooking up a complicated A-B Roll editing system. Forget the expense of buying an edit controller and three VTRs. Forget waiting for sluggish tape access in an offline studio. With the Video Toaster Flyer, all that is history. Now you can record your video direct-to-disk, make edit decisions with the Flyer's drag and drop controls, and enjoy the finished program all in the same afternoon. Don't like the way a sequence looks? Drag the video clips into a new order, insert a new scene, or drop in background music with the click of a mouse. The choice is yours. Best of all, every change is immediate. There's no re-recording, no tape generation loss, and there are no botched edits. For a fraction of the cost, the Video Toaster Flyer provides the quality you expect from a $50,000 digital video deck. Plus, the Flyer seamlessly integrates into the Video Toaster system.

AFFORDABLE ONLINE EDITING

- For under $5,000, the Video Toaster Flyer provides the same D2 quality image you expect from a $50,000 digital video deck. The Flyer integrates so seamlessly with the Video Toaster that you'll be able to experiment with effects, try out different titles, or add animations with ease.
- NewTek's exciting new video compression standard, VTASC, gives you the quality you want without the artifacts associated with JPEG, MPEG, Wavelet and other compression techniques. Your final productions look better with the Flyer since there's no tape generation loss.
- Add a Video Toaster Flyer and a couple of hard drives to the Video Toaster 4000 to form a complete audio and video production suite that fits on your desk.

SEAMLESS INTEGRATION WITH THE VIDEO TOASTER

- Since the Flyer has been designed as a component of the Video Toaster system, it seamlessly integrates with your Toaster-based studio. Harness all of the effects, graphics and animation features that have made the Toaster one of the most popular video tools ever. Use recorded video clips as easily as video still frames. You can even insert video clips into your LightWave animations. This feature, called rotoscoping, allows you to place live video segments - as many as you want - inside your LightWave animations. You have unlimited control over moving images.

EDITS AUDIO

- With the Flyer, your Video Toaster system edits audio as well as video. Its audio capabilities allow you to use it as a sophisticated sound mixer featuring multiple tracks of CD-quality digital audio. Add background music, perform audio sweetening, or bring up the volume of a quiet passage.

SIMPLE, FAST EDITING

- With the Flyer, editing is an exciting process of experimentation and creativity. You start by recording clips into the Flyer (a clip is a segment of video along with stereo audio).
- Each clip is represented by a color picture taken from one of its video frames called a crouton. You fine-tune each crouton - select in and out points, and adjust audio characteristics - until the clips are perfect.
- Next, simply drag a video crouton into position, place an effect crouton after it, then drop another video crouton after the effect. You've just created a transition from one video clip to another. To add a graphic or overlay CG text, drag and drop a graphic crouton. With the Flyer it's easy to build a storyboard where every scene, sound, graphic, and animation appears in the order you want.
- Finally, press the Play button. Watch the entire production roll as each of your clips, effects and graphics plays back in real-time. Record your finished production directly to another Flyer-controlled hard drive or to any video format.

RGB COMPUTER AMILINK

Amilink CIP

Amilink CIP is an Amiga-based A/B roll edit controller. It is a combination of hardware and software that provides flawless control of three VCRs. It is also the most complete personal video editor for the Video Toaster. It controls low-cost industrial VCRs like the Panasonic AG-1970 or with Control L protocol like Sony EVS-3000 and SLV-R1000. You can use three of the same or in any combination. Best of all, Amilink CIP is upgradeable for professional machine control. To upgrade, you buy an upgrade kit that includes new software and professional level control cards. The system includes a new version of Amilink software designed especially for the Toaster 4000. With the new Amilink VT-4000 software, the Video Toaster is seamlessly integrated into your editing suite.

Machine Control
- Choice of joystick, mouse, keyboard and trackball, plus an optional jog/shuttle editing keyboard
- Industry standard keyboard layout (CMX/GVG)
- Auto calculated GPI, plus 48 additional GPI triggers per edit with optional hardware
- Controls industry standard audio mixers

Edit List Management
- Sophisticated search list by edit comment, content or number
- Import/Export CMX 3600 edit list on MS-DOS & Amiga-DOS
- Automatic edit list back-up
- Edit tail cleaning, list rippling, multi-field sorting
- Optimized edit list auto assembly with special integration

Editing Control
- Preview, Perform, Review and Auto review functions
- Multi-set, Multi-trim • Reverse play and auto review
- Pre-Roll, Post-Roll and Preview select

Edit Modes
- Provides for multiple audio/video splits per edit event
- Open ended immediate/delayed transition edits
- Performs all edit modes plus "Music Video Mode" for easily synchronizing edits to music.
- Integrate graphics, animation and character generation
- Scene-based editing with advanced park and perform features
- Cut and Paste EDL management

CIP w/VT-4000 Software **$1499.00**

Amilink AL-3Ni Professional

Amilink AL-3Ni is the professional version of Amilink. It is designed exclusively for machines equipped with RS-422 9-pin serial interface. Amilink AL-3Ni is actually 2 edit systems in one, including both Windows and Amiga software.

Machine Control
- Controls up (Sync-roll) to 16 source VTRs and 4 record VTRs
- Choice of joystick, mouse, keyboard and trackball, plus an optional jog/shuttle editing keyboard
- Industry standard keyboard layout (CMX/GVG)
- Auto calculated GPI, plus 48 additional GPI triggers per edit with optional hardware
- Single frame animation module included
- Dynamic motion control/auto tracking support
- Controls industry standard audio mixers
- Reads VITC and LTC time code, plus fully supports SMPTE Drop-Frame and non Drop-Frame, mixed and PAL/EBU

Edit List
- Sophisticated search list by edit comment, content or number
- Import/Export CMX 3600 edit list on MS-DOS & Amiga-DOS
- Automatic edit list back-up
- Edit tail cleaning, list rippling, multi-field sorting
- Optimized edit list auto assembly with special integration

Editing Control
- Preview, Perform, Review and Auto review functions
- Multi-set, Multi-trim • Reverse play and auto review
- Pre-Roll, Post-Roll and Preview select

Edit Modes
- Provides for multiple audio/video splits per edit event
- Open ended immediate/delayed transition edits
- Performs all edit modes plus "Music Video Mode" for easily synchronizing edits to music.
- Recorder only edits for recording graphics/audio
- Integrate graphics, animation and character generation
- Scene-based editing with advanced park and perform features
- Six forms of Match-Frame edits
- Cut and Paste EDL management
- Multiple time-code and edit clip-board registers

AL-3Ni w/VT-4000 Software **$2295.00**

VT-4000 Software (Toaster Control)

- AmiLink/VT gives you total control over the Video Toaster as a fully integrated post-production switcher.
- AmiLink/VT remembers all of the Frame Stores, CG Titles, and DVEs used for your production in the AmiLink edit list. You never lose any of the information you need to recreate your production.
- All of the Video Toaster post-production functions are easily accessed from the AmiLink/VT interface screen. Toaster Digital Effects, Character Generator pages and the Digital Video Frame Stores, as well as standard wipes and dissolves, can all be called up automatically during edits, and are stored in the edit list for later auto-assembly.

SUNRIZE INDUSTRIES
AD 516 and Studio 16
The Complete Digital Audio Solution

The AD 516 is a professional quality 16-bit high fidelity sound board and hard disk recording system for the Amiga. It includes the feature packed Studio 16 software that allows you to perform all traditional audio post-production tasks. You can create sound effects, edit and replace dialog, and build multi-channel soundtracks in the digital domain.

- Record, edit and playback directly off hard disk
- Play up to 8 simultaneous tracks off one or multiple hard disks in real time.
- Use a mouse to slice up and rearrange sound quickly
- Mix tracks with no generation loss
- Synchronize background music with your productions
- Fade, cross fade, or eliminate sections of audio
- Create unlimited variations of echoes, flanges, and choruses
- Optional Video Toaster Handler expansion module lets you play audio during many of the Toaster's digital video effects.

DIGITAL
PROCESSING SYSTEMS
DC-2350
Personal Component Adapter

The DC-2350 Personal Component Adapter is a combination 3-Line Adaptive Digital Comb Filter Decoder and Y/C encoder designed for use with the Video Toaster.

- Has two S-Video outputs plus switchable Betacam/MII component output which allows the Video Toaster to be connected to Y/C monitors, S-VHS, Hi8, Betacam and MII recorders.
- Equipped with three S-Video inputs which are converted to Video Toaster input feeds. This allows devices such as TBCs and VCRs with S-Video output to be connected directly to the Video Toaster.
- Its 3-line Adaptive Digital Comb Filter provides superior diagonal luminance resolution compared to products using two-line comb filter designs.

DC-2350 ..... **$299.95**

VT-2600 Personal TBC IV

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

DR-2150
Personal Animation Recorder

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

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

Minimum Shipping USA (Except AK & HI) $7.00, up to 3 lbs. Add 60¢ for each additional lb. For ins. add 40¢ per $100. © 1995 B&H Photo-Video. Not responsible for typographical errors.

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B&H PHOTO-VIDEO

SAMSON

MR-1 Wireless System

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

Lavalier (clip mic) Systems

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

Hand-Held Systems

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

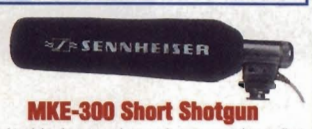
SUPER TD SERIES TRANSMITTERS

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

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

Sony ECM-144 ..... 507.95 Sony ECM-44 ..... 544.95
Sony ECM-55 ..... 653.95 Sony ECM-77 ..... 724.95
Senheiser MKE-2 ..... 747.95

SENNHEISER



MKE-300 Short Shotgun

- Lightweight electret condenser mic to support the excellent video capabilities of most camcorders with the superior audio they deserve.
- Ideal for mounting on camcorders with an integrated shoe assembly and an extremely lightweight compact design.
- Tight, supercardioid polar pattern has the ability to pick up only those sounds that correspond to the scene being filmed and rejects any disturbing ambient noise.
- Integrated wind screen eliminates handling and wind noise.
- Operating time of over 200 hrs. using its own built-in battery so will not put added strain on your camcorders already limited power supply 189.95

K6 MODULAR ELECTRET MULTIMIKE SYSTEM

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

K6

Microphone handgrip and power supply capable of battery/phantom powering all microphone capsules in this series. One "AA" battery supplies power for approximately 150 hours or phantom power (12-48 volts). The K6 power supply has an integrated bass roll off switch and on/off switch with LED indicator for battery condition 194.95

ME 66

Short shotgun capsule. All sound coming from the rear and sides of the ME66 is greatly attenuated, thus allowing this microphone to pick out specific sounds in noisy environments. Great for interviews in crowded situations, as a camera microphone for electronic news gathering (ENG), for unobtrusive theater sound reinforcement and as a podium mic. Frequency response: 50-20KHz ± 2.5 dB 204.95
ME66 with K6 Powering Module 397.95

ME64

Cardioid capsule. Feedback resistant due to its well defined directional polar pattern. This feature, as well as its extended frequency response, make this microphone capsule ideal for use in sound reinforcement or recording in noisy environments. Frequency response: 50-20KHz ± 2.5 dB..... 144.95
ME64 with K6 Powering Module..... 334.95

ME62

Omnidirectional capsule. Very broad and smooth frequency response, without proximity effect. Its low handling noise and integrated pop screen make it ideal for interviews and live recording. Frequency response: 20-20KHz ± 2.5 dB 119.95
ME62 with K6 Powering Module 309.95

MACKIE

MicroSeries 1202

Ultra-compact 12 channel audio mixer featuring the same specs and performance as the proven CR-1604. In less than 1 sq. ft. of work space it provides 4 low-noise/high headroom mic inputs with +48V phantom power, 4 bal./unbal. mono inputs, 4 stereo inputs, 2 AUX sends per channel, 2 stereo effects returns, 4 channel access inserts, tape in/out, 2 band EQ, headphone monitor w/level control, 12 LED peak meter display, sealed pot/tniometers, rugged steel construction and built-in power supply.

CR-1604

Sixteen-channel audio mixer designed to deliver exceptional performance in a wide range of situations, including studio recording, live recording, live music PA systems, broadcasting studios, and high quality installed systems. Exclusive mix amp technology delivers 2X more headroom than ordinary mixers, along with the lowest distortion and highest possible S/N ratio. Convertible design allows physical format to be changed between tabletop, jacks-to-top and rack mount with jack pod rotated 90° to back. Rack mount brackets included.

TASCAM

688 MidiStudio

The 688 MIDISTUDIO is a compact, 20 input audio mixer combined with an 8 track cassette recorder system. Designed for the MIDI-based studio, this unit will work well for both the production facility and the individual artist. In the MIDI environment, sources can be selected, destinations assigned and routing designated, all from the remote MIDI controller. With its wide input range and ability to be remotely synchronized, the 688 can be the heart of a high tech, compact 8 track studio.

- Full featured 20 input mixer (10 balanced XLR inputs)
- 8 x 2 cue monitor mixer
- Built-in dbx noise reduction system (defeatable)
- Unique "Scene Display" system to monitor MIDI-controlled setups
- Gapless auto punch in/out and rehearsal modes
- Serial interface for external synchronization

porta brace

Quick-Draw Professional

FOR CAMCORDERS OR STAND ALONE CAMERAS

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

NRG

POWER BELT SERIES

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

880 Power-Pro +

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

970 Power-MAX

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

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

VARA-LITE PRO

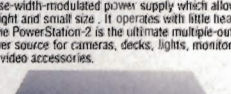
Professional DC On-Camera Light

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

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

POWER STATION-2 SERIES

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



- 85-264 volts worldwide auto-adjusting input (just plug in).
- Supply is fully protected from overcurrent.
- Ultra-light weight - under 3 lb.
- Outstanding 300,000 hour mean time between failure is far in excess of any other manufacturer.
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HGXT-60 Plus ..... 2.69 HGXT-120 Plus 2.99

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BA Series Premier HI-Grade Broadcast VHS (In Box)

T-30BA ..... 3.59 T-60BA ..... 4.09 T-120BA 4.89

MQ Master Quality S-VHS (In Box)

MQST-60 ..... 7.99 MQST-120 ..... 8.39

BRS 3/4" U-matic Broadcast Standard (In Box)

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KCA-30 XBR ..... 11.99 KCA-60 XBR 15.69

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FARGO

PRIMERA PRO

High Resolution Dye-Sublimation & Wax Thermal Transfer Color Printer

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

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

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TOASTER GALLERY

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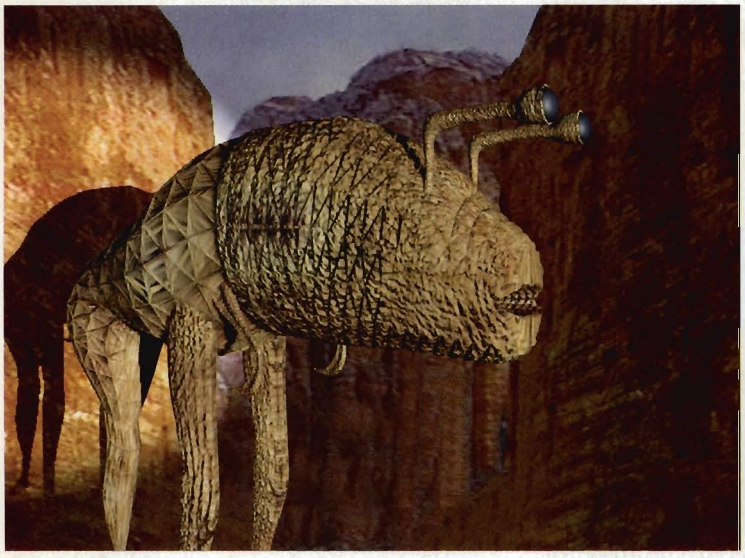
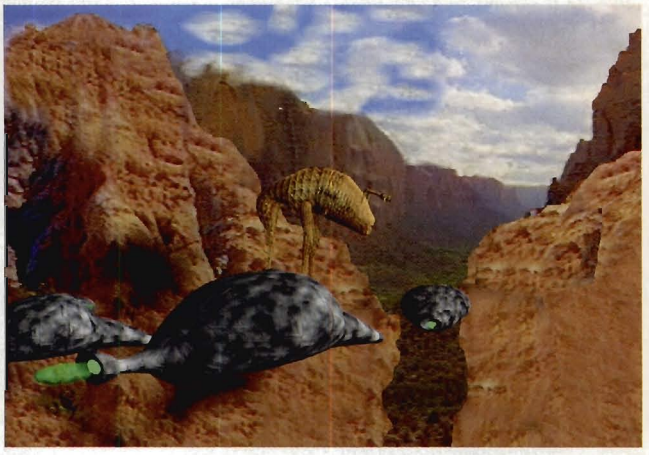


▲ *Puff Fish* by Stephen McGreath

For *Puff Fish*, McGreath scanned in a real-life amphibian and used LightWave's Extrude and Bevel functions. All of the images on this page were created using an Amiga 2000 with 20MB of RAM and a Fusion Forty accelerator.

▼ *Grand Canyon* by Stephen McGreath

Grand Canyon was forged with a scanned-in photograph of the natural monument and TPaint, which McGreath used to make the side mountains and clouds.

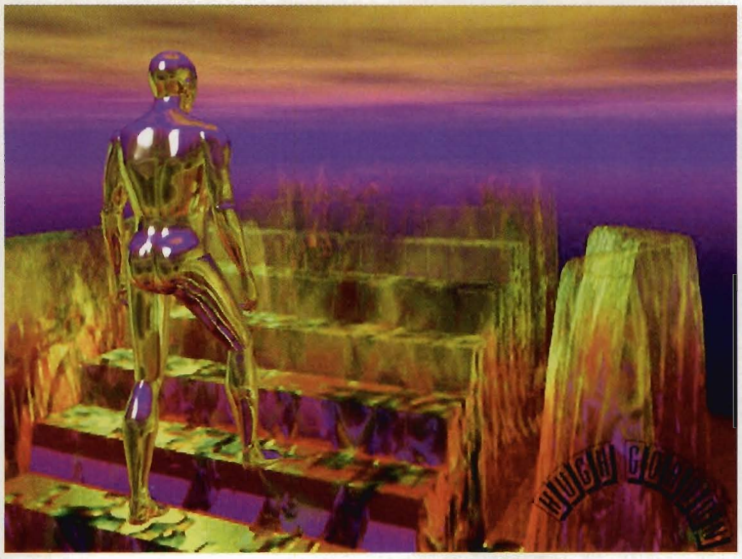


▲ *The Chamber* by Stephen McGreath

This 5,000-polygon scene required the use of a Personal Animation Recorder and includes image-mapped doors.

▼ *Lobster Creature* by Stephen McGreath

McGreath used LightWave's Extrude and Bevel (reversed on the animal's tail) functions for this 50,000-polygon image, plus a bit of Metaform. He can be contacted at (716) 825-7914.

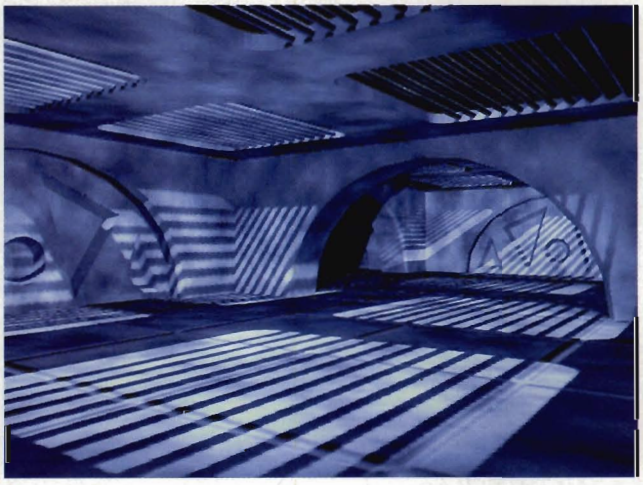


Men in Heaven, Part II
by Hugh Gordon

The *Men in Heaven* animation was constructed using an Amiga 3000 with 40MB of RAM, LightWave, OpalPaint and ADPro. Gordon used Boolean operations and masks for the creation and fading of the steps, respectively.

Men in Heaven, Part I
by Hugh Gordon

Men in Heaven, a one-minute, 1800-frame animation, depicts the origin of the stars: Humanoid creatures ascend an elaborate, winding stairway, evolving into plasma spheres as they reach the top. Gordon, an animator with Motion Effects, can be reached at (718) 464-3025.



Continuum
by Brian Schultz

Continuum was created using an Amiga 4000 with 10MB of RAM and LightWave 3.5. This 2,129-polygon scene was rendered at Medium resolution with a combination of shadow maps and trace shadows, a single bump map image and fractal noise. Schultz, a recent graduate with a degree in computer graphics, can be reached at (708) 357-7056.

future Ant
by Thomas Morley

Part of a short film about survival in a devastated world, *future Ant* was completed on an Amiga 2000 with an '040 33MHz accelerator and 16MB of RAM. LightWave 3.5 and Forge helped provide the dusty-looking ground textures. Morley, whose company does commercials and 2D/3D animation for broadcast television, can be reached at (800) 217-4839.

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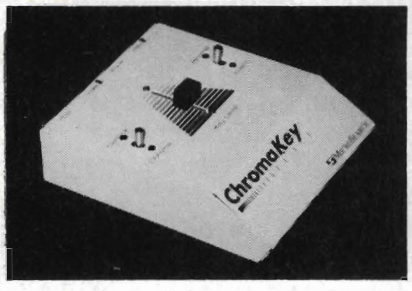

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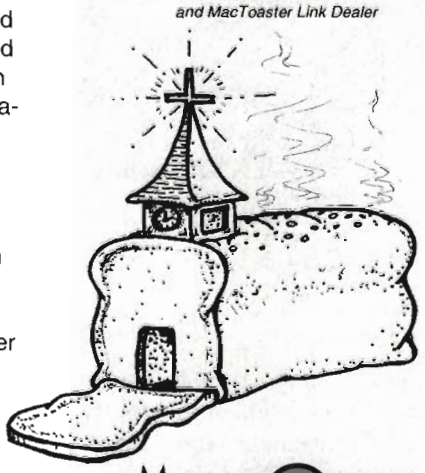

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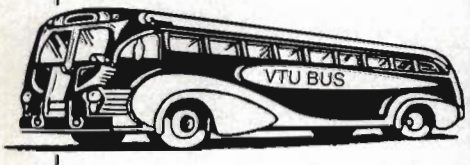

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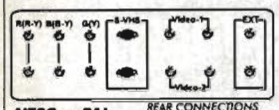

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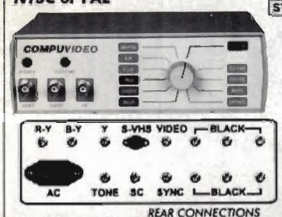

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LAST WORD

A Balanced Diet

Learning to Derail the One-Track Mind

by Mojo

A few months ago I started going to raves out here in Los Angeles. For those of you who aren't familiar with them, raves are big techno-music parties seeping with energy and peopled by intelligent, good-natured folks who like to boogie until dawn. In fact, the whole underground dance/music scene has slowly turned into a fascinating subculture that has completely absorbed my weekends. I've been making new friends, discovering new music and opening myself up to a lot of new experiences—it's almost been like leading a double life! It is a much-needed alternative, I might add, to the daily rigmarole of movies and TV.

When Ron Thornton isn't busy running Foundation Imaging, you can catch him going for a spin through the forever-blue skies of California in his own little plane—perhaps on the way to a far-off newsstand to pick up the latest aviation magazines. After work, he's probably at home cooking up a storm in the kitchen or brewing something weird on his new MIDI system.

"Ideas have to come from somewhere, and they sure aren't going to come from inside your Toaster."

Bob Peppler, Foundation's newest animator, spent his winter vacation in Europe at the 1994 Titanic Society outing. He visited the shipyards where the infamous vessel was constructed and enjoyed countless hours of discovery and conversation with people from all over the world who share his fascination with the doomed ocean liner.

John Gross, editor of *LIGHTWAVE-PRO* and seasoned veteran at Amblin Imaging, is a Civil War buff. Amblin Vice President Tony Stutterheim is a science-fiction nut. Award-winning LightWave animator/director Dale K. Myers is a Kennedy assassination scholar. *Star Wars*' George Lucas loves race cars. *Star Trek*'s Gene Roddenberry was a cop.

"So what?" you may be wondering. "None of these things have anything to do with making TV shows."

You're absolutely wrong. In fact, I would go as far as to say that it is *because* of these seemingly unimportant hobbies and interests that all these people have (and will) become successful at their art.

When I was in high school, I knew I wanted to study film. I read everything I could to help me learn more about film schools and the choices I needed to make. I paid particular attention to what my idols, Lucas and Steven Spielberg, had to say on the subject. Years later, I can still remember, almost verbatim, what was perhaps the most important advice I read; it appeared in an interview with Lucas, around the time of *Return of the Jedi*. I don't have the exact quotation, but, to paraphrase, he said: "Sure, go to film school and take all the movie classes you want—knock yourself out. But make sure you minor in something else, something that has nothing to do with film, such as history, science, mythology—anything. Otherwise, at the end of four years, you'll get out of school knowing everything there is about how to make a movie, but you'll have nothing to make movies about."

These words are as true now as they were then. It's so *easy* to drown yourself in your work. You love animating, or editing, or movie-making so much you spend every waking moment immersed in it. The outside world quickly falls by the wayside and you concentrate so hard on perfecting your craft that you develop a one-track mind.

However, it is *vitally* important to poke your head out the window every now and then and remember that there *is* a world out there. In fact, many of the best directors, and especially writers, never started out wanting to be writers and directors. They lived a full life as doctors, lawyers and Indian chiefs until, one day, they got sidetracked into documenting their experiences and eventually telling stories about them. And that's what making movies and TV shows comes down to: telling stories. Stories about cops and teachers and doctors and lawyers and Indian chiefs. The makers of these shows are drawing on their own life experiences—experiences that have nothing to do with movies and TV.

Ideas have to come from somewhere, and they sure aren't going to come from inside your Toaster. They come from what you know and love. If all you know and love is your computer, you're not going to come up with a whole lot of interesting stories. And don't expect to just make movies and TV shows about making movies and TV shows (unless you're Gary Shandling). Not only will you end up incredibly bored and dull, you'll most likely burn out within a few years and end up chucking the whole Hollywood thing before you even get started (as a lot of my old film school buddies have done). This road tends to lead one to a job at the Post Office, and you know how that goes.

Even as I devote a large portion of my life to *Babylon 5*, I make sure I keep other hobbies and interests to fuel my own ideas. Maybe one day I'll make a movie about Elvis or the rave scene. Bob might direct the definitive Titanic documentary. Perhaps Tony will helm the next big science-fiction opus and maybe John Gross will tell us how aliens played a role in the Civil War.

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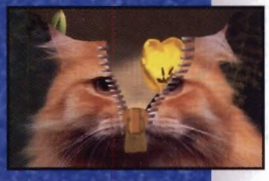

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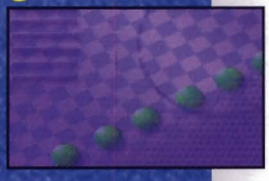

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