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# VIDEO TOASTER USER

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

AUGUST 1995

## THE DRIVE FOR **MASS STORAGE**

System Solutions for  
Audio and Video

## *TEXTURES AND OBJECTS FOR LIGHTWAVE 3D*

## Reviews

- Flite Gear
- MediaPhile

An Avid Media Group, Inc. magazine



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# Liana

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
- Includes cable
- Includes Commodore's Envoy networking software
- English manual
- automatically reconnection after (re-)booting without new startup
- Every machine usable as server and client

**\$ 99.00**

# Pablo

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.

- Three cables included: RCA, S-VHS and SCART
- 5 floppy disks with drivers, animation demos and more
- 24Bit Animation program included
- 15kHz overload protection
- 2 well written manuals
- Plugs onto the Picasso II - no Zorro-Slot required
- Easy installation of video modes

**\$ 199.00**

# Ariadne

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)
- Socket for Boot-ROM
- 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**



# Picasso II RTG



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
- Supports up to 256 colors with WB3.1, even on A2000 and A3000
- WB resolutions definable up to 1600 x 1280 pixels
- HiColor (16Bit) and TrueColor (24Bit) graphics: 16M colors!
- Drivers for most graphic programs such as AdPro, ImageFX, ImageMaster, Real3D
- Allows connection of any VGA or Multiscan monitor
- A1084 and A1081 are still usable with a special cable
- Black borders gone forever, takes full advantage of monitor's capabilities
- System-compliant implementation of monitorfile, resolution select table using screen mode-requester
- Monitor-File compliant with System 2.x or higher, resolution selectable using screenmode requester
- View regular Amiga and special PicassoII-RTG screens on same Monitor without changing cables.
- Screen promoter to make older programs work on Picasso
- Draggable screens
- Available with 1MB or 2MB, upgradable from 1MB to 2MB at anytime

**2 MB**

**\$ 599.00**

**NEW!!**

# MainActor Broadcast

MainActor Broadcast is a completely new Animation-Program. It works on all Amigas with at least 512kB RAM und Amiga OS2.04 or higher.

## Features:

- More than 20 load- and save-modules for animations and pictures (AVI, BMP, DL, FLI, FLC, GIF, IFF, IFF-Anim3/5/7/8/1, JPEG, PCX, Quicktime,...)
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- Index-file for quicker reloading of animations
- Support of any graphics card with up to 16.7 million colors as well as standard Amiga-screen modes
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- Allows joining, converting, splitting and creating animations
- Easy-to-use intuitive graphical user-interface
- Programmable AREXX-Port

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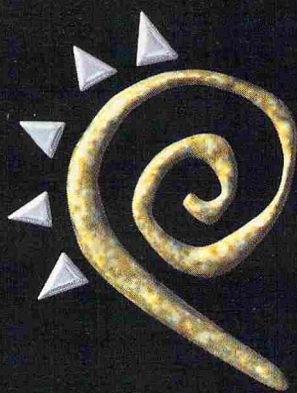
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# LIGHT

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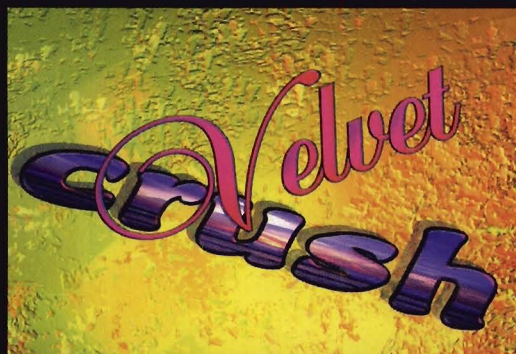
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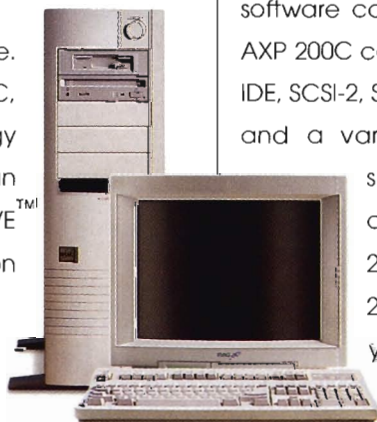


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\*As seen in the May 1995 **LIGHTWAVEPRO**™ newsletter article, "LIGHTWAVE 4.0 Benchmarks"  
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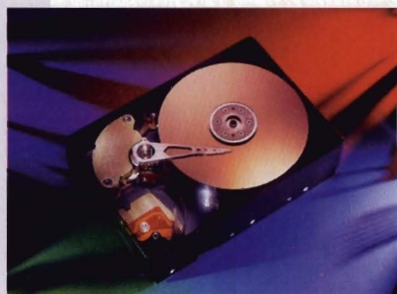
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by Frank Kelly

So much data and not enough room to store it. This is the problem that many computer artists face. Take a look at some viable solutions including high-capacity hard drives and tape backup options.



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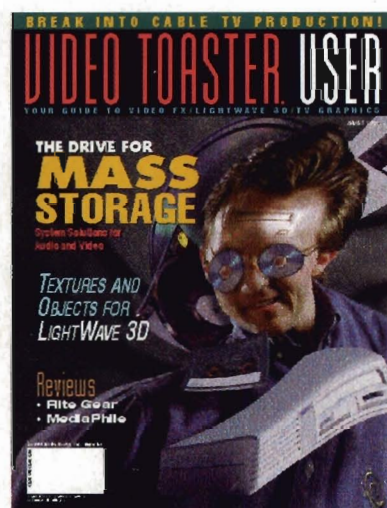
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by R. Shamms Mortier

Nope, it's not your wishful thinking: the market really is experiencing an almost exponential boom in CD-ROMs for 3D animators. The kicker? As you'll see, many of them are quite impressive.



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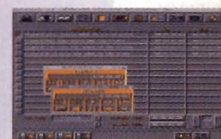
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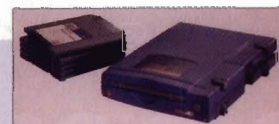
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# INTRODUCING!

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## VIDEO TOASTER USER

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

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This month we recognize Kathleen Christopher for contributing extraordinary accomplishments to our company.



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BPA International membership has been applied for



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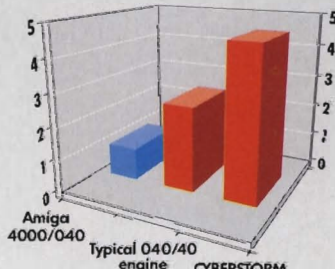
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### Performance Index CYBERSTORM



Application: LightWave 3D Rendering.  
 Amiga 4000/040 = Factor 1.

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# TOASTER TALK

## The Future of NewTek

### Can They Turn It Around?

by Jim Plant



**M**

ost Video Toaster and LightWave 3D users are well aware that recent times have been very rough for NewTek. Most of you are also quite aware of the various factors that have led to the company's situation. The scarcity of Amigas, coupled with NewTek's inability to ship any truly stable, bug-free products in almost a year...well, it doesn't take a genius to predict the results. If someone had told me a year ago that neither the Flyer nor LightWave on the PC (release versions) would be shipping by June of this year, I wouldn't have believed it. And if I did, I would not have given very good odds for NewTek's survival. As I write this column, that's exactly the situation that NewTek finds itself in. So, I guess we should close the magazine down and slit our wrists.

Or maybe not. Actually, as grim as the situation may appear, NewTek is in pretty good shape to pull off an amazing recovery. While it is certainly true that NewTek's universe has been in somewhat of a state of disarray, the planets are beginning to align themselves in NewTek's favor. Read on and I'll bring you up to speed on the developments in the LightWave and Video Toaster marketplace, and give you my reasons for thinking the smart money is still on NewTek.

The first thing to remember is that NewTek is not as shaky as many industry observers think it is (or competitors would like to believe). The dollars are still rolling in at a steady rate. No, it's not the torrential flood of 1991 and 1992, but it's still a good solid flow. People are buying pre-release Flyers, pre-release LightWave on the PC and a surprisingly large number of original Video Toasters. Of course, I don't think even NewTek could continue to hang on if this situation continued much longer, but then, as I mentioned earlier, I'm surprised it's done as well as it has considering what it's shipped (or hasn't shipped).

The tide is turning for NewTek. From a product perspective, the company is very close to shipping LightWave 4.0 on all platforms. The 4.1 version of the Flyer software and Video Toaster System 4.0 are also very close to shipping. And the recently announced Video Toaster for Windows is still on schedule for a third quarter 1995 release. So by the end of 1995, NewTek will be shipping several excellent desktop video and 3D animation products on almost every major computer platform. Certainly a far better place than the organization's been in at any point in its nine year history.

Another important factor to consider is the rebirth of the Amiga computer platform. As we reported in last month's "Toaster Times," Escom has purchased Commodore's assets, including the Amiga technology. At a recent press conference in Germany, Escom announced

that in September of this year it would begin shipping thousands of the new Amiga 4000Ts (with a fast Motorola 68060 processor) to the North American market. The 4000T is an ideal machine for a Video Toaster and Flyer non-linear editing system. While NewTek's product line is no longer Amiga-specific, the Amiga is still a technologically superior video graphics computer, and Amiga users still represent the vast majority of NewTek's customers. The Amiga's imminent return can only bode well for NewTek.

Of course, NewTek's recovery and return to glory is by no means a slam dunk. It still has to execute several important feats. First it must address the needs of its largest installed base of customers—Amiga users. NewTek must ship release versions of the Flyer, the Toaster System 4.0 upgrade and Amiga LightWave in the very near future. While I think it is very important that NewTek migrate its products to other platforms, it must continue to give top priority to the needs of its existing customers. By following this principle it will not only reap the financial benefits of selling to a group that has already demonstrated an affinity to purchase from it, but will also benefit from the positive endorsement of happy customers as it attempts to penetrate new markets. And, of course, it's just the right thing to do.

NewTek must also quickly finalize and ship the multi-platform versions of LightWave 3D. I realize that this conflicts with serving the Amiga base, but hey, that's just the way it is. LightWave on the PC is extremely important to NewTek's future for a variety of reasons, not the least of which is its high-profile penetration in the Hollywood television community.

Finally, NewTek must complete production and begin shipping the Video Toaster for Windows in the third quarter of 1995. It is important that NewTek begins shedding its well-deserved reputation for badly missing projected shipping dates. NewTek isn't Microsoft, so the analogies to Windows do not apply here. Plus, the battle lines in the war for supremacy in the PC desktop video market are quickly being drawn. NewTek can afford no more delays in entering the fray.

All things considered, it is my opinion (and admittedly, it is a biased one) that long before the end of this year, NewTek will have navigated the above-mentioned waters and affected a dramatic turnaround that will put it in position to become a far stronger and more profitable company than it has ever been. Meet me at this year's Video Toaster Expo in November and we'll see if I'm right.

VTU



Now for Windows NT!

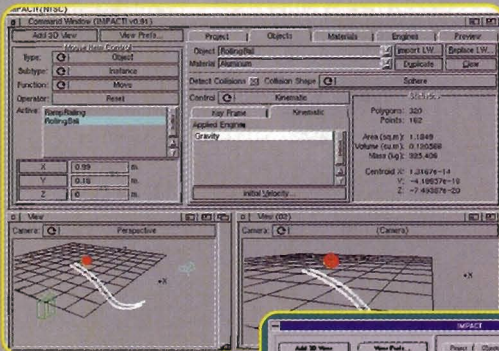


# Welcome to the world of IMPACT!

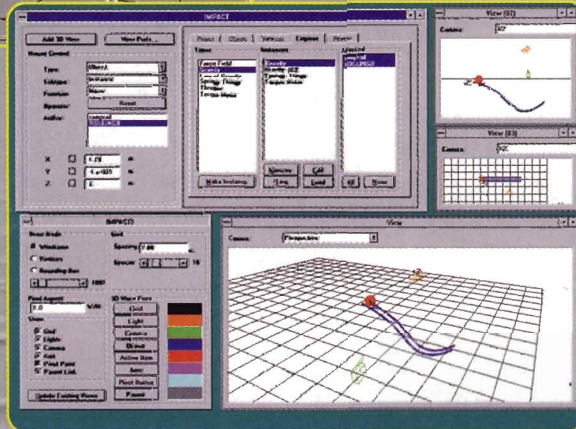
## User Interface:

An intuitive and configurable interface with online help gets you started right away. IMPACT! allows an unlimited number of scalable viewing windows, each with a unique perspective. Also, a wealth of viewing preferences let you choose what you want to see and how you want to see it.

IMPACT! for Windows NT



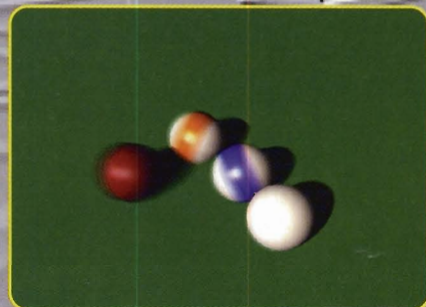
IMPACT! for AMIGA



## Engines:

Making objects move with engines is a snap. There are several engines to choose from, such as: **Gravity**, **Spring**, **Thruster**, **Force Field**, and others. With the **Law of Gravitation** engine, you can even place moons in orbit around planets. Multiple instances of engines can be created and individually applied to any group of objects.

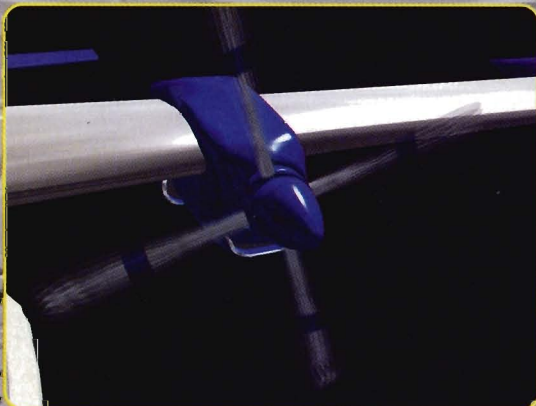
Don't miss a cue with IMPACT!



## Materials:

Materials affect how objects will behave during collisions and while under the influence of engines. Create any number of materials, vary the density, roughness, or elasticity over time and watch for some very interesting effects.

Torque Motor In Action.



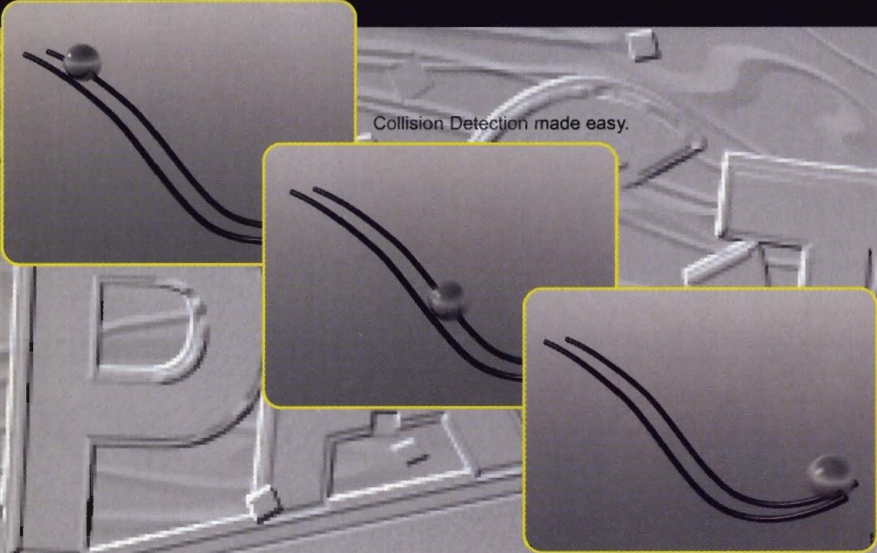
## LightWave 3D Support:

IMPACT! was designed for LightWave 3D users by LightWave 3D users. LightWave 3D scene files can be imported and exported in IMPACT!. IMPACT! even allows you to use predefined motion paths for any object and apply envelopes to a wide range of engine parameters. Standard LightWave 3D object files are supported as well.



# IMPACT!

## Physics for LightWave 3D



Collision Detection made easy.

### Solid Object Modeling:

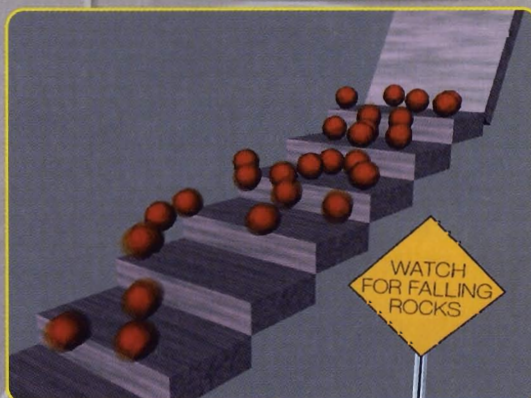
IMPACT! will automatically compute, quickly and accurately, the mass, inertia, and mass center of an object (key properties in physics models). Altering an object's material allows you to vary object mass and inertia easily.

### Collision Detection:

IMPACT! succeeds where others have failed by offering the most advanced and accurate collision detection to date. IMPACT! uses a simulation approach that zeroes in on collisions precisely where and when they happen. Simulations can be greatly speeded up with the more simple sphere or box 'collision shape'.

### Collision Response:

Collision detection is half the battle. The other half is collision response. IMPACT! uses Newtonian physics to create realistic looking collisions that consider both angular and linear motion as well as surface friction and elasticity.



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# TOASTER TIMES

## Sleep Stealers

Corey Cohen

If you've ever walked into a crowded arcade after an exciting new game's arrived, you know how the hordes react. A small but impenetrable body of leaning heads, trembling hands (usually holding tokens) and open mouths stands ready. Ready to swoop on the coin slot as soon as player one dies, of course, but there's more to it.

Whether they're standing in wait or sitting before a monitor, hands frantically tearing plastic packaging, what video gamers are really ready for is the opportunity to marvel at a

new world. To be utterly absorbed by someone else's graphical creation, to the temporary exclusion of

all else. Like movie/TV buffs, these people truly appreciate the powerful, innovative animation that can take them there.



This LightWave-generated test animation for a possible game shows the interior of a futuristic space cathedral.

Morpheus Interactive is one company that aims to deliver. This Provo, Utah, designer of video games for the Sega Saturn, Sony X PlayStation, and PCs with Glint or Matrox cards strives for,

among other things, phenomenal animation. "What makes our games unique is incredible visual appearance—fully animated—and really enjoyable game play," says John Savage, Morpheus' vice president and co-founder.

Achieving graphic excellence, at least, requires a heavy-duty arsenal—in this case one that makes heavy use of the Amiga and LightWave 3D. "We use just about every program for the Amiga and PC, and [to a lesser extent] the Mac," says Savage. Software such as StrataStudio and TrueSpace/Caligari is used for in-game development, or those graphics that occur during actual gameplay. Cinematic sequences—continuous animation that precedes or interrupts gameplay—are done almost completely in LightWave, with a little help from Forge and Essence.

Why LightWave? "It's the best pow for your buck," says senior anima-

continued on page 16

## Unraveling the Upgrade

David Hopkins

Amid all of the hullabaloo over Toaster/LightWave 4.0 there has been a lot of confusion over exactly how the upgrade is structured. I'm going to try to help clear this up in the simplest possible way.

Let's start with the most basic scenario: You own the complete Video Toaster package. There is no way to upgrade LightWave only, so you must purchase the entire Toaster 4.0 upgrade. This software is \$549.95 and consists of a CD-ROM containing the new LightWave, Modeler, Switcher, ToasterPaint and CG. If you are one of the CD-impaired, you'll need to order the alternate upgrade, consisting of the CD-ROM

(which you can use when you get a CD-ROM drive) and a set of 60 floppy disks that you can use in the meantime, for \$595. Note that a floppy install will result in a less-than-complete installation, but will get you to 4.0.

Now then, suppose you are an owner of the standalone version of LightWave for the Amiga. In this case, you have a choice. You can upgrade to either the Amiga, MIPS, Alpha, SGI or PC version (one only, please) of LightWave for \$149.95. That's that.

If you currently own ScreamerNet, the software that allows your Amiga to remotely control rendering on machines such as DeskStation's Raptor Series, you

can also upgrade to the MIPS, Alpha, SGI or PC standalone version of LightWave for \$149.95. Of course, you could use this upgrade to go to the Amiga version instead, but presumably you would upgrade to that from your current Amiga version.

If you don't have ScreamerNet or the Amiga standalone LightWave and want to run LightWave on another platform, your price is \$995 for each type of platform you intend to run (MIPS, Alpha, etc.).

### Power Times Two

OK, now here's where it gets complicated. If you buy any version of LightWave, you actually get two versions. One of them looks and acts exactly like LightWave does now on your Amiga. It has the standard interface and features. You'll also get what is called a "render module." This version is identical to the primary version, but has



no user-interface. To run the standard LightWave you'll need to plug in a dongle. The render module, however, can run on as many of the same type of machines as you've got, without a dongle. ScreamerNet owners are already familiar with this concept, since the current Amiga-interfaced version controls the non-interfaced MIPS or Alpha versions on the appropriate machines.

And there are a number of ways ScreamerNet owners can use the new upgrade. You may: (a) Forget the Amiga completely and run the standalone version on one of the other types of machines; (b) Follow the same approach as (a), but use the standalone version to control any number of slave machines; and/or (c) Stick with the way things are now and use the Amiga to control any remote machines. Granted, with option (c) you'll need to upgrade *both* the Amiga and the remote machine(s) to LightWave 4.0.

Here's the question I have heard most often: "If I own a Raptor or RaptorPlus, do I need to upgrade them to full workstations [adding monitor, keyboard, display card, etc.] in order to run the new version?" I am happy to say that the answer is no. Of course, if you work the old-fashioned way, with the Amiga in charge, you'll suffer from lower performance due to the transfer of files back and forth between machines. But you're already used to that.

So what if you have a mixed rendering farm, with both MIPS and Alpha machines? Well, you'll have to pay the full price of \$995 for one of those versions, while taking advantage of the upgrade for the other. (Presuming you qualify for the upgrade.)

The pricing information explained here is valid through June 30, 1995, but due to the late arrival of some versions, the offer is expected to run through July 31. If you have questions that I didn't answer, please contact NewTek for clarification. Hopefully, we can all overcome the confusing multi-level upgrade and get back to work.

Animators, start your (render) engines!

VTU

*NewTek's Brad Peebler and DeskStation Technology's Ray Zwiener contributed technical assistance to this article.*

# The Way I See It

## Nuts and Bolts



Mike Danger

**T**his column is like a box of chocolates: you never know what you're gonna get until you look inside. Just be aware of the assorted nuts found within. Hopefully, I'll provide not only information, but some of the gossip lurking around this biosphere.

Despite some people's bad-mouthing of the Amiga, I feel the best thing to do at this time is for all the Toaster/Flyer users to hold hands and join in a round of cum-by-ya while giving thanks that a force higher up than any of us had the knowledge and technology to make our favorite hardware work on numerous platforms.

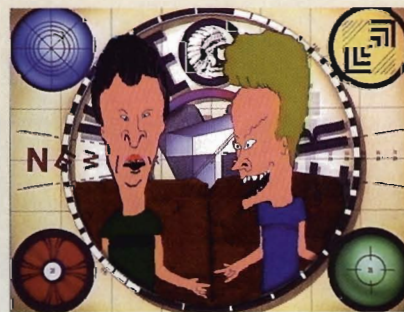
Speaking of the Amiga Escomomy, the proud new Commodore owners under the leadership of Manfred Schmidt predict shipments of most Amiga models and the Commodore 64 workhorse will reach America sometime in September. For those of you hanging on doubt and skepticism, there are still plenty of machines and parts for everyone.

NAB left me wondering if all this mostly not-yet-available (nor working) non-Amiga equipment was worth the exorbitant price tag. I felt like Dorothy going behind the curtains to see the Wizard of Oz and experiencing a huge letdown upon finding out that all the magic and hype was merely an illusion. With some time and research, maybe in a year or so, efforts might rival that of the early Toaster 1.0 software and hardware. For my video production technology, I took Topeka, and found out just like Dorothy that technology and dreams do come true. Let's face it: for the price and quality, I'll be Toastercized forever.

For you government types out there, there is a column appearing regularly in the *Washington Post* that deals with the PC computer market

and neglects the rest of the hard driving computer community. There has been a recent flood of Macintosh users making claims of no coverage of personal units. The only response made to the massive letter writing campaign was, "Please, no letters from Amiga users!" Does this sound like an invitation to write or what?

Well, it's that time again where you, the reader, dictate the content and provide visual stimulation via a thing we call Framegrab of the Month. As Al Williamson of IFAS



Framegrab of the Month goes to Al Williamson

Educational Media in Gator-y Gainesville, Fla., writes, "Here is a copy of the start-up screen that greets me each time I turn on my Toaster. I grabbed the image from a newspaper article, colored it, and using ToasterPaint, blended the two into the Toaster 2.0 start-up screen. To say the least, it lightens my day."

Well done, Al!

As the sands pass through the hourglass of time, so does the time and space allowed for this column. Remember, if you don't support this magazine, this magazine can't support you. Send all framegrabs, questions, faxes or non-perishable food items to Mike Danger, P.O. Box 11802, Pensacola, FL 32524; (904) 469-1001.

VTU



# Universal Appeal

The staff of VTU wishes to congratulate contributing writer Tim Doherty for recently winning two major awards.

Doherty, along with two other members of a core production

team, took home an Emmy this June for Best Instructional Series with *Universe: The Infinite Frontier*. He contributed approximately five minutes of mostly LightWave-generated animation to each of the telecourse's 26 episodes. *Universe* has been sold to universities around the world, and has been airing on syndicated channels and public broadcast programming since March.

One week after collecting the Emmy, Doherty also learned that he had nabbed a 1995 Telly—honors given annually for outstanding achievements in advertising—in the

Animation category. The award was for a four-minute, completely animated promotional video for Redken Inc., a manufacturer of haircare products.

Currently, Doherty is working on another instructional series for Coast Telecourses, this time dealing with biology.

VTU



This LightWave-generated lighthouse from *Universe* served as an analogy for how light is emitted from a neutron star.

## Sorry...

The product referred to as "TV Paint Pro" in "Buttering Your Toast" (May 1995 VTU) was actually TVPaint 2.0. A newer version of the software, TVPaint 3.0, is now available, and is marketed by Activa International.

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FOR INFORMATION CIRCLE 125



## Sleep Stealers continued from page 12

tor Jeff Hall. "[LightWave's] cheaper and better than most of its competition. We sold our SGIs because we were paying too much money for something that wasn't much better."

Morpheus' hardware consists of four Amiga 2000s, three A2000s with '040 accelerators, two Raptors and a Raptor 3/DEC Alpha at 300MHz.

### Stalking Success

The company's first solo effort, VR Stalker, released in Sept. 1994 for the Panasonic 3DO, contained a LightWave-animated introduction almost five minutes long. The stark plotline of this retake-the-U.S. military thriller, complemented by equally powerful graphics, made for a controversial presentation, says Savage. And the plot-based, "building graphics to suit the script" philosophy stuck.

"[With our games], once the script is defined, we build animation to appropriately tell the story—so it's not a story that doesn't make a difference," said Savage. "When I play a game myself, I look for something that's not just a bloodfest where pushing the right combo of buttons lets you win. We like to give people—especially kids—a complex tactical situation. That's a huge basis for what we try to do."

### All Fun and Games?

Given the eight- to nine-month turnaround time per game, tackling new titles requires some serious commitment. When Savage and Morpheus President Ken Vretschneider started the company in 1983, there were five employees, and projects were mainly doing graphics for other companies. Though the staff has now grown to 24, it's still a challenging adventure.

"It surprised me how hard it is to do all of this," he said. "Building a game is half preparation, half production. My job has turned [to a large extent] into a management job."

Another obstacle is good old dishonesty. "Espionage is alive and well in today's industry," said Savage. "We've actually had people break into our office trying to steal stuff, download information from our hard drives."

### A Powerful Lineup

Among Morpheus' current projects is Flashpoint, a 3D ground simulation in which players are trying to take over the solar system a planet at a time using vehicles such as a hovercraft, tank or walker. This title will



The animation sequences above, from the introduction to Morpheus' Flashpoint, appeared in a trailer given to video game magazines and publishers. The space fighter's laser uses motion blur on a moving texture map, while Photoshop helped customize the image map on the planet.

ship in time for Christmas. Scheduled for a February 1996 release is Fatal Contract, which Savage calls "a butt-kickin' futuristic flight simulator." And Morpheus has just negotiated a title called Secrets of the Luxor, a 3D hires exploration game that takes place underneath an Egyptian pyramid.

In addition to games, the company has also done covers for video game magazines *Game Players* (January 1995) and *Next Generation* (an upcoming issue), and more of these are in the works. "It's finally gotten to the point where people come to us," says Savage.

Morpheus may take the namesake of the god of dreams, but these dedicated artists won't be getting a good night's sleep anytime soon. Then again, neither will the pixelphiles playing their games.

VTU

## News & Notes

### Annual Regatta

Video Toaster Animation & Graphics and the West Virginia State College Communications Department are sponsoring a video exhibition at this year's Charleston Sternwheel Regatta. Over 400,000 people come to be regatta each year to enjoy a variety of river events, nightly entertainment, exhibits and food. The video exhibition, held Sept. 1 and 2 at the West State College Capitol Center, will showcase video productions from amateurs, local producers and nationally recognized professionals. It will also include video animation, music videos and short video features. Admission is free. Entries for the exhibition will be accepted through Aug. 15.

For entry forms or additional information, call Jamie Cope at (800) 644-2368, or send e-mail to [j.cope4@genie.geis.com](mailto:j.cope4@genie.geis.com).

### Don't Miss the Waveys

The 1995 Wavey awards ceremony for excellence in 3D animation (announced last issue) will be held Aug. 9, from 7 p.m. to 10 p.m., at the Orpheum Theater, 842 S. Broadway, Los Angeles, CA. Call us at (408) 774-6770 for more details.



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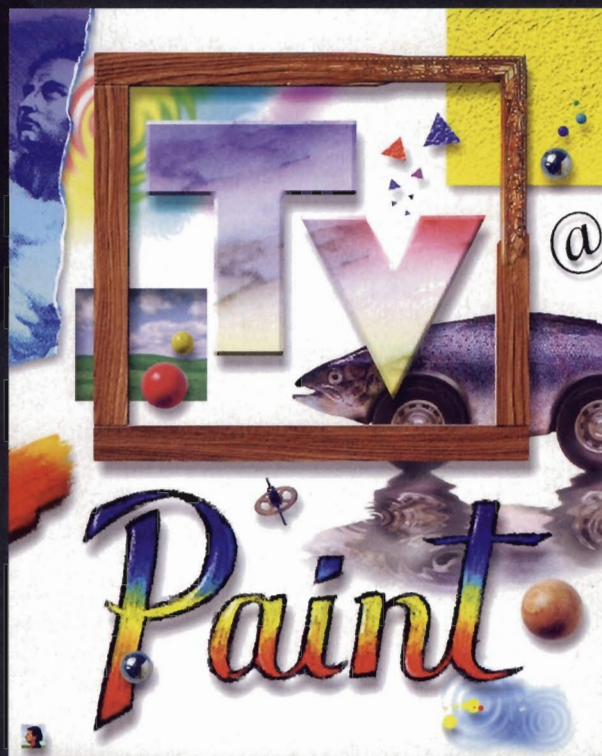
LAYER B

canvases. '3 plates of glass' to paint on, access to digital animation recorders, for rotoscoping, or retouching frames of video, and



LAYER C

suddenly imagination takes over. These are just a few of the 2100 functions that make up TVPaint. Since each of these functions performs as quick as lightning and are easy



If you want to restrict your artistic talents to antique dealers and posterity, then consider buying an easel.



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FOR INFORMATION CIRCLE 107





# NEW PRODUCTS

Compiled by Corey Cohen

and an another 3.5-inch drive when necessary. The Jet for Flyer is cooled by additional fans and contains a 230W power supply. The back is conveniently configured to work with NewTek's Octopus cable, and contains two PC slots that supply power only. RF shielding keeps signals and interference down to a minimum.

FOR INFORMATION CIRCLE 3

## Grooves, Scores and More

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FOR INFORMATION CIRCLE 4

## More Control

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(800) 697-8833

The Zip drive gives users the opportunity to increase storage quickly, easily and economically. Available in a parallel port and a SCSI version to accommodate Macintosh, PC and Amiga platforms, the Zip drive uses 25MB or 100MB Zip disks to expand a computer's storage space; with compression software, 200MB can fit on a single Zip disk. And the drives are fast, with an average seek time of 29 mil-

liseconds (100MB disks) or 16 milliseconds (25MB disks); minimum and maximum sustained transfer rates of 0.79MB/sec. and 1.4MB/sec., respectively; and a typical throughput of up to 60MB/minute with the SCSI version. The 1 lb. drive is easily portable, and Iomega's Silent Spin drive technology



and an automatic low-power mode make it quiet and energy-efficient. Zip tools software (not functional with Amigas) on the enclosed 100MB starter disk lets users organize, move, save, transport and password-protect their files easily.

FOR INFORMATION CIRCLE 1

### Snazzy Tunes

Product: The Music Works!  
Description: Music CD-ROMs  
Price: \$29.95 each  
Aztech New Media Corp.  
1 Scarsdale Rd.  
Don Mills, Ontario  
Canada M3B 2R2  
(416) 449-4787  
Fax (416) 449-1058



The Music Works! volumes 1 and 2 are CD-ROMs featuring license- and royalty-free music for accompaniment to all types of media productions. The discs contain

a blend of a wide range of musical styles composed and performed by a leading professional session group. Each volume has over 20 minutes of digitally mastered original music, with tracks ranging from 10 seconds to over three minutes in length. The Music Works! plays in a standard CD audio player and any platform supporting standard CD-ROMs. Included on both discs is MIDISOFT's Sound Impression for Windows, the ultimate sound production environment for creating, editing and integrating .WAV, MIDI and CD audio formats.

FOR INFORMATION CIRCLE 2

### A Safe Hangar

Product: Jet for Flyer  
Description: hard disk box  
Price: \$299.95  
Legendary Design Technologies, Inc.

25 Frontenac Ave.  
Brantford, ON  
N3R 3B7  
(519) 753-6120  
Fax (519) 753-5052  
The Jet for Flyer is a hard disk box for use with NewTek's Video Toaster Flyer. The model currently available, the 3533, contains three 5.25-inch drive bays



and three 3.5-inch drive bays. This configuration allows users to easily install one full-height 5.25-inch drive, a regular 3.5-inch drive and a dedicated audio drive, plus a CD-ROM drive



controller

Price: \$295 (With Infrared Controller and MediaEditor 4.0 software)

Interactive MicroSystems, Inc.  
9 Red Roof Lane  
Salem, NH 03079  
(603) 898-3545

Fax (603) 898-3606

Interactive MicroSystems has added two new controllers to its MediaPhile family of video editing products. The main controller, the *MP 3.0S/LANCS Prosumer Controller*, interfaces with camcorders and video deck players equipped with Sony LANCS or CTL-L ports to IBM-compatible and Amiga computers. Recorders are controlled with the companion *MP 3.0TTL/IR* infrared remote control unit. Users may also "hard-wire" the *MP 3.0S/LANCS* through its S, swap or comp-u-link ports to the record deck. A GPI output is provided for switcher control, and advanced users can read time code from a player audio track through a linear



time code input. The *MP 3.0S* unit plugs into the computer serial port and will allow users to control more than one player by plugging additional *MP 3.0S* units into expansion serial ports. This unique feature makes it ideal for both cut-editing with one player and advanced A-B-C-roll editing with switcher control.

**FOR INFORMATION CIRCLE 5**

### Your New Home

Product: The Interior Design Collection

Description: 3D Objects for LightWave PC

Price: \$395 for CD-ROM compilation; separate objects sets (on disk) start at \$65

Replica Technology  
4650 Langford Rd.  
N. Collins, NY 14111  
(716) 337-0621

Fax (716) 337-0642

Replica Technology has announced the release of several LightWave 3D object collections for the PC platform. *The Interior Design Collection CD-ROM* is a gathering of over 500 real-world, scaled LightWave



objects on one disc. Featuring the contents of Replica's individual object packages (*Interior Design I, II and III, Interior Construction* and *Homes*), the CD-ROM is a complete collection of over 150 pieces of furniture, 150 interior construction objects and four complete homes. It includes full 24-bit images of most objects and sample preview animations. All objects are fully detailed, fully surfaced and fully functional.

**FOR INFORMATION CIRCLE 6**

### Versatile Editing

Product: Edit Suite  
Description: A/B-roll edit controller

Price: \$699

Videonics

1370 Dell Ave.  
Campbell, CA 95008  
(408) 866-8300

Fax (408) 866-4859

The Videonics *Edit Suite* is the first, low-price, multi-format, multi-protocol A/B-roll edit controller, allowing users to easily and afford-

ably create video productions that rival those produced in professional editing studios. The *Edit Suite* is compatible with Videonics' MX-1 Digital Video Mixer and a variety of third-party mixers. Advanced features such as separate audio or video inserts, audio and video split ends and video edit preview/review are supported when connected to VCRs containing these capabilities. A weighted, professional-quality jog/shuttle wheel provides accurate and positive control of videotape whether advancing at 10x play speed or frame by frame. The Videonics *Edit Suite* is designed for use with all types and levels of editing equipment, improving its performance as the user upgrades the peripheral equipment. Editing accuracy is determined solely by the VCR that is connected to the *Edit Suite*—providing single-frame precision with advanced pro decks. Other features include the capability of storing an Edit Decision List (EDL) with up to 250 edit segments; support for Sony Control-L, Panasonic Control-M, RS-232 and RS-422 VCR control protocols, and VITC, LTC and RC time codes; a computer interface that allows



EDL export for CMX compatibility, which allows off-line work to later be transferred to more costly on-line suites for substantial time and money savings; and an adjustable backlit LCD display, making it easy to see current editing

instructions under any lighting conditions.

**FOR INFORMATION CIRCLE 7**

### Video Dollars

Product: How to Profit

Making Special-Interest Videos

Description: Instructional package

Price: video is \$49.95,



accompanying manuals are \$150 (may be purchased together or separately)

Adita Video Inc.

116 Bermondsey Way N.W.

Calgary, Alberta

T3K 1V4

(403) 274-7494

Fax (403) 275-6213

*How to Profit Making Special-Interest Videos* is a video- and text-based course designed to show attendees how to shoot a video, sell it and make money. Written and hosted by experienced video producers Myron and Malcolm Achtman, the program consists of 10 main modules covering the following topics: definitions of special interest video, scripting, shooting, editing, advertising, marketing, budgeting and calculating, keeping records, tape duplication, and packaging. Parts of the course that depend more on visual content are featured in the two-hour video, and a printed index page accompanies the tape so viewers will know which parts are tied to the course manual. A separate manual, the enclosure supplement, contains all the enclosures and illustrations referred to in the course manual.

**FOR INFORMATION CIRCLE 8**



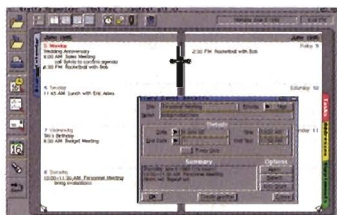
## NEW PRODUCTS

### Electronic Info Management

Product: Digita Organizer  
Description: Electronic planner

Price: \$85  
Soft-Logik Publishing Corp.  
P.O. Box 3838  
Ballwin, MO 63022  
(800) 829-8608

*Digita Organizer 1.0* is a new Amiga-based personal information manager from Digita and Soft-Logik. With its easy-to-use section tabs, *Digita Organizer* looks just like a spiral-bound planner but is more convenient. The Diary lets you enter appointments and set alarms for events. Use the Calendar to check for days with events and prioritize your "to do" lists with the Task manager. You can keep track of friends and



business contacts with the Address book and even print pages to insert into your spiral-bound planner.

**FOR INFORMATION CIRCLE 9**

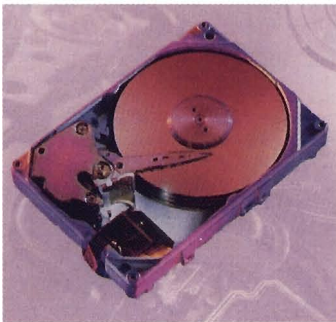
### A Mobile Solution

Product: Europa series (540 AT, 810 AT, 1080 AT)  
Description: Windows '95 drives

Price: Starting at \$350  
Quantum Corp.  
500 McCarthy Blvd.  
Milpitas, CA 95035  
(408) 894-4000  
Fax (408) 894-3218

The Quantum *Europa 2.5*-inch hard disk products offer high capacity and feature the most advanced technology for improved areal density, low-power consumption and top performance. With formatted capacities of 540MB,

810MB and 1.08GB, and a Fast ATA-2 interface, the drives are ideal mass storage solutions for full-size and slimline mobile computing systems running storage-intensive multimedia, graphics, communications and Windows '95 applications. The Europa



drives combine magnetoresistive heads and a Partial Response Maximum Likelihood read channel. Quantum's data integrity feature has been enhanced for double-burst error correction on-the-fly, allowing for the correction of up to 48 bits of data without interrupting sequential and random data transfers. The drives are exceptionally rugged and energy-efficient, and comply with industry standards for power management and mounting specifications.

**FOR INFORMATION CIRCLE 10**

### Seizing the Stage

Product: MainActor Broadcast  
Description: animation software  
Price: \$333  
Village Tronic  
Wellweg 95  
D-31157 Sarstedt  
Germany  
+49/(0)5066/7013-18  
Fax +49/(0)5066/7013-49  
Village Tronic has announced the release of *MainActor Broadcast*, an animation program for the Amiga. The software's many features include more than 20 load-and-save mod-

ules for animations and pictures; complete AVI, Quicktime and JPEG support up to 24 bits; an index file for quicker reloading of animations; support of any graphics card with up to



16.7 million colors and standard Amiga screen modes; and more. It also contains effects modules for generating effects directly into the animation, 19 sound modules for sound-and-music playback including compressing, an easy-to-use graphical user interface and a programmable AREXX port. MainActor Broadcast works on all Amigas with at least 512kB RAM and Amiga OS2.04 or higher.

**FOR INFORMATION CIRCLE 11**

### Editing Software

Product: Editizer/VISCA  
Description: Editing software  
Price: \$695  
TAO Media Systems  
501 West 5th St.  
Rolla, MO 65401  
(314) 364-4925  
Fax (314) 364-5631  
TAO's *Editizer/VISCA*, a software-only version of the company's *Editizer 3.0* controller, provides powerful, friendly and cost-effective support for Hi8-format equipment. The *Editizer/VISCA* provides A/B-roll editing to *VISCA*-compatible VCRs,

and RC time code is fully supported. An edit decision list is automatically generated, while editing for later assembly. Switcher interfaces included are the Video Toaster, Panasonic's WJ-MX30/50 and Videonics' MX-1.

**FOR INFORMATION CIRCLE 12**

VTU

## PRODUCT ANNOUNCEMENTS

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

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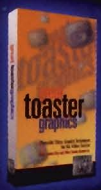
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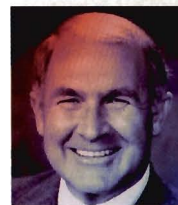


# TOASTER POST

## How to Break Into Cable TV

### Learning the Ropes of a Competitive Field

by Burt Wilson



**I** don't know of any Toaster owner who doesn't dream of making a living from this precious pile of technology. Actually, it isn't that hard, even if you're a neophyte who has just bought one and is still trying to understand the Switcher screen. Yes, you, too, can have a life in post-production using the Video Toaster. And it's closer than you think.

Here's how to get started. First, believe in yourself. Don't be discouraged by your first floppola. Have the determination to go after your dream and don't give up until you have achieved it. Every actor and actress in Hollywood was once told by somebody, "Go home, you'll never make it." You have probably been told the same thing in so many words. This seems to be a standard life test. All you have to do to pass is hang on and thumb your nose at that stupid jerk.

system at home, shoot your tape at the studio and then take it home for editing on your Toaster. Or, use your front room as a studio. Most front rooms look better than cable station studios! Cable stations in the U.S. normally use the 3/4-inch format. The larger markets may use Betacam. Few do S-VHS or Hi8. This trend will probably continue for a long time because these companies aren't interested in investing in new format changes unless it's absolutely necessary. You'll find that cable stations are graveyards for old Sony 2860s and 5800s and JVC and RCA 3/4-inch editing decks.

Most stations have a Switcher with some effects, an audio board, a waveform monitor and a vectorscope to go with their edit system. Some even have Toasters, but they're usually the basic Amiga 2000 with Toaster 2.0 and no accelerator. You probably have better equipment on your desktop! Nevertheless, producing your own public access programs

**"With the Toaster or Flyer, you don't have to take a back seat to anyone. You can walk into any business, look the owner straight in the eye, and say, 'I do TV commercials and I've got a great idea for you.'"**

#### The Cable Business

So how do you break in? Doing cable television commercials is a good start. There are four main areas in cable TV you can work into: (1) becoming the station's commercial producer or starting on the cable production staff, (2) becoming an independent producer of cable TV commercials for one or many stations, (3) producing shows for your cable company's public access system, and (4) producing programming for the leased access system.

Let's start with the easiest. Cable stations are mandated to open up a channel to public access. That means you. You can produce your own program and take it to the station for airing, or you can use the station's own facilities to create one. This is how *Wayne's World* got its start.

To begin, contact the person in charge of public access at your local cable station and ask to go through the training program. They'll show you basic lighting, how to use the camera, and even how to do a cuts-only edit. Then it's all up to you. You may want to start out producing a weekly "talking heads" program in the station's studio. So what if it's talking heads—you're doing TV! If you have an edit

is a great way to start, whether you do it on your own equipment or the station's. Remember, the only way they can turn you down is if you get commercial (i.e., try to sell something). You can get nude or crazy or both, but you can't sell on public access.

#### Buying Time

You can sell on leased access, however, and that's what it's for. This is the cable station's local commercial outlet for programs. The idea is that you produce your own show, sell your own 30- or 60-second commercials, and then pay to have this package aired on the cable station's leased access channel. Once you've done this, you're a TV producer!

The trick is to find a program *idea* (most leased access programs are limited to 30 minutes; some are one hour) that will draw an audience. That means coming up with some subject that is not covered on regular commercial TV. You might do a local news magazine, a dating service, a used-car show, a real-estate show, hobbies, swap meets, or anything else that can cook up lots of local interest. If you can attract viewers, you can attract paid commercials. Prices for leased access time range from \$50 per



half-hour in small markets up to \$500 per half-hour in large markets. Put in about 16 or so 30-second commercials and price them so they pay for the time and give you a decent profit for all your work.

Another way to get into cable TV is to land a staff position. The acceptable thing to do is go to the station's employment desk and fill out an application. Good luck. If I were trying to get on a station's staff, I would lie and wait in front of the station for the staff producer to go out on a shoot. When that happened, I'd follow. When the crew got to the loca-

tion site, I'd run up and say I was a video hopeful and ask if I could watch as they shot the commercial. I'd even ask if I could help carry their equipment in. The thing is, hang around those who are doing it and try to be helpful. Maybe they have an intern program. Ask if you can get in to watch them edit commercials. If you have a Toaster and they don't, offer to plug your Toaster into their system. In any case, you'll learn a lot about production by hanging around people who are doing it, and you'll get noticed by the station's staff producer. When an opening occurs, who are they going to call?

There are some drawbacks, however. The majority of staff producers at cable stations are overworked and underpaid. Not only do they have to produce commercials, they also have to monitor public and leased access shows and do public service stunts such as local parades and sporting events. But, hey, they're doing TV!

The best thing about a staff position is that you can learn all aspects of the business and you won't get pushed into a singular mold, such as editing or lighting. You do it all. If I were starting out in TV today, I would do anything to get a staff position at a cable station. There is

no substitute for learning to be versatile. The more things you can do, the greater your demand in the job market. And you learn how to do it all in a small cable station.

The other way to get into cable TV is to become an independent producer. This is what I do. I make a living producing industrial videos,

but between doing these, I work on several commercial projects for a number of cable stations. It generates a nice income for me, and, with the money I get from doing longer videos, I make a nice living.

Cable stations use independent producers because their staff producer is usually overworked and can't handle all the commercial work in a timely fashion. These companies are driven by sales, and when the sales staff gets a contract to put a local business on the air, they hate waiting more than a few days for the commercial to be produced. The client can get cold feet or buyer's remorse, or simply get tired of waiting. Sales wants to get 'em on the air fast!

That's why they frequently go to local independent producers. That means you. Therefore, you have to be good, creative, fast and relatively inexpensive.

### **The Need for a Demo**

How to get started? There is no way to get around one basic requirement—you must have a demo reel. You have to show what you can do. Showing quality, creativity and production know-how is a must. The latter is where the Toaster comes in. With the Toaster, you can compete with the best, but you have to have something on tape to prove you can do it.

So, get a demo reel together. Go to a couple of businesses in your area and ask to do a commercial for free. Few companies are going to

turn you down. And who knows? You might even end up getting it on the air. Try to get about three commercials in the can and then call your cable station's advertising department. Tell the ad manager (or the salesperson who answers the phone) that you are a new producer in town and would like to show your demo reel. In all probability they will see you.

If they don't, be sneaky. Ask the business you did the cable commercial for to call the sales department and have a salesperson come out to see him. And you be there with your commercial. Let's face it: all's fair in love and TV.

### **Be an Agency**

There's another way to go in the independent production field: become a local ad agency. This means that you go out and get clients in competition with the cable station's local ad sales people. For example, you go solicit Vinnie Abbruzzio's Atomic Bar & Grill to go on a cable TV campaign. You get the station's rate card (remember, every rate is negotiable) and sell him a program for \$1,000 a month. That means that you make 15 percent, or \$150 a month, commission from that sale, and you also get the production fee. A few of these and you're making a living.

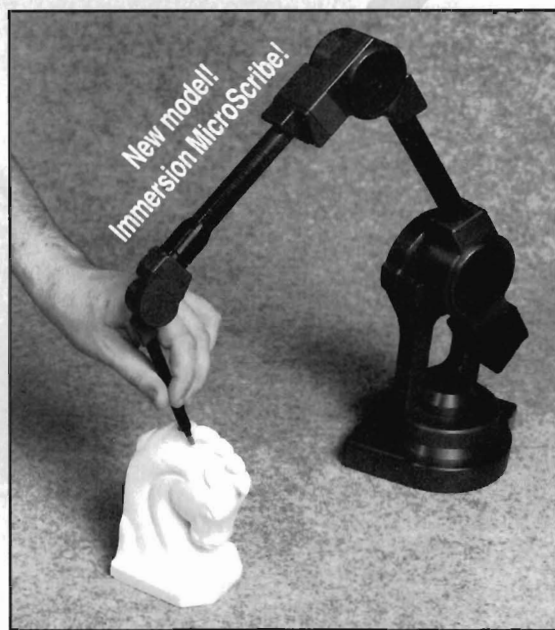
There's something you should be aware of, however. Being in competition with the cable station's local representatives is a double-edged sword. You **are** bringing them business they **might** not ordinarily get, yes, but you **are** also cutting into their **commission** structure (i.e., they earn less). You can make it a very happy arrangement if you bring them volume—a lot of clients. Then they can count on you for a certain percentage of their overall business, and **since you** service the accounts, it **frees them up** to make other sales. A caveat: If your client folds his tent and steals away in the night, you, as his agent, are responsible for the total amount of his ad purchase. There are a few sleazy clients who will use an agency to generate quick business and then go belly-up and skip out, leaving the agency with the unpaid bills. You have been warned.

**"The best thing about a staff position is that you can learn all aspects of the business and you won't get pushed into a singular mold."**



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Video Toaster User - June 1995

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FOR INFORMATION CIRCLE 199

## Lightwave 3D™ Modeler (Amiga) Digitizer and 3D Sculptor™ (ARexx Interface)



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FARO Technologies Inc., 125 Technology Park, Lake Mary, FL 32746, (407)333-9911, (407)333-4181 FAX

FOR INFORMATION CIRCLE 106

## TOASTER POST

### Money Talk

How much should you charge for doing a commercial? That usually depends upon the cable station and the size of the community it serves. You can get away with charging more if the station's rates are higher. It's a subjective concept, but every community seems to seek and hold onto its own level of tolerance for TV production rates.

The biggest problem you'll run into is clients who want their \$1,000 commercial to look just like that \$70,000 commercial they saw on network TV, which was shot over a week's time in 35mm and posted in a big-time studio. Clients just do not know what it costs to do TV!

You often have to educate them. Do not be afraid to do this. Remember, they want to get on TV. You're in the driver's seat, so steer them in the right direction. The other thing is how much of a production budget you can keep for yourself. I'm lucky. I write, produce, direct, edit, narrate, and do artwork and graphics for my own commercials. I get to keep the whole budget! But if you have to pay a cameraperson, an editor, an artist and a narrator, pretty soon you're down to keeping a small percentage of the budget for yourself. You then have to either increase your volume or increase your rates. If you raise your rates, somebody like me will blow you out of every competitive bid. So you have to find a level of operation that is financially viable. Remember, at the center of everything is your Toaster or Flyer. That's what makes you a professional and enables you to compete in any market. With the Toaster or Flyer, you don't have to take a back seat to anyone. You can walk into any business in your area, look the owner straight in the eye, and say, "I do TV commercials and I've got a great idea for you." Now you're talkin'!

WU

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

### EDITORIAL EVALUATION

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Desert Storm...do you think we would have used  
Hum-Vees"

FOR INFORMATION CIRCLE 148



# DEAR JOHN

## 'I Want My DCTV'

### Tackling LightWave Hardware Questions

by John Gross



**T**his month, I'll answer some of the questions that have been building up in my virtual mailbox, plus get some reader feedback. Let's start with the feedback:

In regards to the question that was posed to you ("Dear John," *VTU*, April 1995) by Jim Boydston concerning the Video Toaster 4000 and a genlock utility problem, I have experienced a similar situation. I was able to fix this problem by reducing the overscan size in the Overscan Preferences Editor. A call to NewTek tech support confirmed my suspicion: the Genlock Utility of the VT4000 does not support full overscan from the Amiga's operating system. Apparently, the Video Toaster uses the top part of the video signal for some kind of sync reference. Having an overscan size that is too large will cause the Amiga's screen to turn black, making rebooting necessary. The best way to adjust the overscan properly is to leave quite a few scan lines at the top and left side (using the Amiga Overscan Preferences Editor) instead of stretching the overscan boarder to its limit.

Another symptom of "too much overscan" is that when you attempt to display a picture (or computer animation) through the Toaster's Genlock, the Program Out may become unstable and lose sync. The image on your video monitor will suddenly lose sync and become unusable. Again, the solution is to adjust the overscan of the picture or animation via a paint program; the Overscan Preferences Editor can't help you in all cases.

Andre Perusse  
animax@ra.isisnet.com  
Dartmouth, Nova Scotia, Canada

**Q:** I have enjoyed reading your articles in *VTU* over the last year or so. I am a medical video producer using the Video Toaster in conjunction with two high-end S-VHS decks (Panasonic 7600 and 7650).

My investment in all this equipment can only be measured by my clients' acceptance of the finished product. Unfortunately, what my client sees is a VHS copy of my edited master. The graphics and titles I produce on the Toaster look very acceptable on the edited master, but they suffer greatly when copied to VHS.

It's not just the graphics and titles that suffer. The video also loses a lot when copied to VHS. I shoot my footage with a high-end S-VHS camcorder. The original footage looks fantastic—many have commented that they thought it was Betacam—and even the quality of the edited master is great, but then comes the VHS copy, the third generation, and boom.

Is there anything that can be done, or is this just the nature of S-VHS and VHS?

Sincerely,  
Geordie F.  
GeordieF@aol.com

**A:** When copied to VHS, graphics and video will always lose resolution. To get the best-quality copies possible, make sure that your decks are in the best possible condition and the heads have been cleaned and maintained thoroughly. In September 1994s *VTU* Stephen S. Andrews, a reader in Pataskala, Ohio, shared that he achieved high-quality dubbing from dubbing recorders—in particular the Panasonic AG-6840H models.

**Q:** Back in the good old days when I ran my 2.0 Toaster software, I could boot up my Toaster while my DCTV paint system was hooked up. Now, with the upgrades, I find that the Toaster will not boot at all with the DCTV connected. I have called NewTek, my dealer and Digital Creations about this and I'm told that on some machines it runs and on some machines it doesn't. I love the DCTV paint system but find it a pain in the rear to shut down my entire system, recable, then reboot while in the middle of a project. What happened with the upgrades? Why doesn't the Toaster boot up with DCTV connected? I have two Amiga 2000s and DCTV doesn't run on either of them. However, my friend has a 4000 and it boots just fine on that machine. What gives? Is there a way to fix this problem?

David Main  
rotrwang@aol.com  
Empire West Video Productions  
Aurora, CO

**A:** I've seen DCTV work fine with some systems and not at all with others. I think nobody really knows for sure why it works sometimes. If any readers have feedback in regards to DCTV working with the Toaster, please write to Dear John, 273 N. Mathilda Ave., Sunnyvale, CA 94086.

**Q:** I have several hardware questions concerning PCs running LightWave and the good ol' Amiga 2000:

(1) Could you please give us your hardware recommendations and specifics for a PC system running LightWave?

(2) What operating system must we have? Wouldn't OS/2, with its true multi-tasking capabilities, be ideal for LightWave on a PC?

(3) How much faster will a PC using a 100MHz Pentium render a medium/high resolution LightWave image compared to the fastest processor for the Amiga?



(4) Will we be able to run LightWave on a Power PC?

(5) I run LightWave on an Amiga 2000 with an '030 processor. Obviously, I want to upgrade to an '040, but isn't Motorola coming out with an '060? Will '060s be available for Amiga 2000s? Regardless, how much faster will they render LightWave images?

I know I have a lot of little hardware-related questions, but believe me, many users are asking them! Any insight you can give in your column will be appreciated by many LightWave users!

Thanks!

Jim Vergara

tcpr50a@prodigy.com

**A:** OK, here goes:

(1) As with an Amiga, it depends on your uses for LightWave. If you are using the software to make money, you should buy the best system you can afford. You can run LightWave on a machine with only 8MB of RAM, but I wouldn't recommend it for serious (or not so serious) work. Sixteen megabytes is good, 32MB is better and more is always welcome. I would say that you would want to run the program on at least a 486 processor. LightWave works great on Pentium-based machines. You should get a graphics card that supports the size of the resolutions and number of colors you wish to work in. LightWave will work fine at 256 colors, but for better surface sample and render window displays, I like using a greater color choice. Also, make sure your graphics card comes with drivers for the operating system you are using. Pretty much any name-brand card will work.

(2) To run LightWave on a PC, you can have either Windows 3.1 or greater or Windows NT (version 3.5 recommended). The same LightWave-executable file will run under Windows using Win32S (included with LightWave) or under NT. You choose which you are installing under. I definitely recommend using NT. Not only do you get much better memory management, but you also have the ability to use long file names. If you use LightWave in Windows, you will be restricted to names of 8.3 format. Besides these factors, LightWave renders faster under NT. I've seen render times up to twice as fast in some cases, but around 30 percent or so faster is fairly common. As far as O/S2 goes, I haven't heard of anyone trying LightWave on it yet.

(3) We recently conducted a series of benchmark tests for *LIGHTWAVEPRO*. A 100MHz Pentium running Windows NT rendered an average of six times faster than an Amiga 2000 with a fast 040 card (which was the fastest Amiga available at press time).

(4) Perhaps. I know that if the Power PC were to run NT, you would see LightWave on it fairly quickly.

(5) I can't really comment on '060s and Amigas because it's currently unknown what will be available for Amigas along those lines.

**Q:** I am a government user of the Video Toaster 3.1 running on a 2000 chassis with the Toaster 4000 upgrade board. I'm wondering if it is possible to control studio camera tally lights with the Toaster's Switcher. In other words, when I punch up a given input 1-4 on the Switcher, is there a corresponding TTL pulse or contact closure available at any of the Toaster's output ports that could be used to control tally lights

in the studio? It's a constant source of frustration to my camera operators and studio talent when they cannot tell which camera is currently "on the air."

Believe it or not, I use the Toaster Switcher to the exclusion of a \$50,000 Grass Valley switcher simply because of the Toaster's superior digital CG keys and brushes. They are that much cleaner than conventional analog keying techniques.

Any help or referrals you could make would be most appreciated.

Sincerely,

Bill Church

church@narnf

**A:** At one point there was a company that produced tally light systems for the Toaster. They were called Sennetech Inc. and they can be reached at (517) 321-1905. I'm not sure if they still make these systems, but you can give them a try.

**VTU**

*John Gross is a supervising animator at Amblin Imaging and editor of LIGHTWAVEPRO newsletter. Send questions for him to Avid Media Group, 273 N. Mathilda Ave., Sunnyvale, CA 94086, or e-mail him at jgross@netcom.com.*

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# SOUND REASONING

## Time to Synchronize

Techniques for Maximizing Your Audio Tracks

by Cliff Roth



**M**ost films, even low-budget 16 mm student productions, have at least five audio tracks: two for dialogue, one for music, one for sound effects and one for background ambience. A documentary might get away with four tracks: no sound effects and using one of the dialogue tracks for narration. But that's just about the absolute minimum. Remember, we're talking about a mono mix; add at least one more track if stereo music and mixing will be involved.

Although many video formats, including the low-budget staples of Hi8 and S-VHS, actually offer a total of four audio tracks, they're not nearly as flexible to

with the available audio tracks in the format(s) they're using. If you find yourself in that situation, here are some guerrilla-style tips to help maximize the effectiveness of the limited audio tracks you have available.

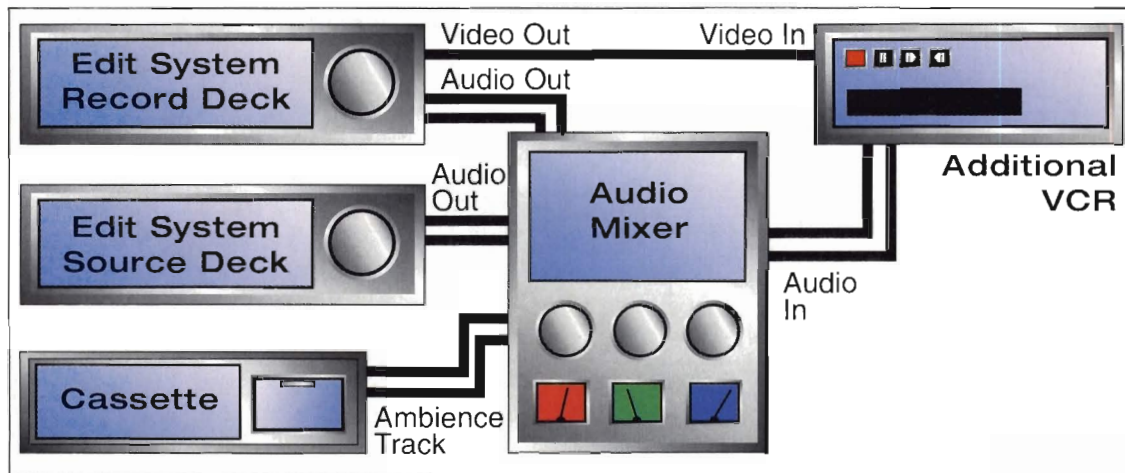
### Ambience Track

The ambience track is, without question, the audio component that low-budget video producers ignore the most. Ironically, it's the easiest way to spiff up a soundtrack without spending a lot of money.

Unlike just about all other tracks, background ambience does *not* need to be synchronized. The background track generally stays the same throughout an entire scene. If an interview or dramatic scene is taking place in a living room, for example, the ambience track is the sound of the living room. If the scene takes place on a city street, the ambience track is the sound of traffic going by. If the scene takes place in a store, it's the sound of Muzak, cash registers beeping, and shoppers shuffling about.

The great thing about ambience is that you can record it (or transfer it) onto a regular audio cassette tape, or onto audio tracks on another videotape, and then play it continuously throughout the mix, leaving the level the same at all times. The ambience track will help smooth over background changes that would otherwise be heard in the dialogue track(s). The only requirement is that the ambience recording last for at least as long as the scene. Film sound engineers often get around that stipulation by looping a short recording—thus making a 15- or 20-second recording last for minutes by splicing the beginning to the end. Digital samplers can do the same thing, although the duration of the recording that gets looped is usually just a couple of seconds, which makes it easier to recognize a repeating pattern (an effect you definitely don't want).

You can create your own cassette tape loop using a standard telephone-answering machine outgoing message tape, available at Radio Shack or other electronics



After picture editing is completed, an edit system can be used to synchronize playback of additional audio tracks.

use, in practice, as film soundtracks. There are numerous layers of seemingly absurd limitations on the audio tracks: you have to record them at the same time as you record the video signal (AFM tracks on Hi8; hi-fi tracks on VHS/S-VHS), or you have to record two tracks simultaneously (PCM tracks on Hi8), or you only get the full complement of tracks if you buy industrial equipment, or the tracks aren't found on any low-budget camcorders (as with PCM on 8mm/Hi8).

In the past I've discussed ways to get around audio track limitations by adding synchronized multi-track tape decks, by using synchronized digital disk recording such as Studio 16, utilizing higher-budget tape formats such as Digital Betacam, or with non-linear systems such as the Video Toaster Flyer. But realistically speaking, such equipment can be out of the price range of low-budget producers, leaving them stuck



stores. The tape is already supplied in loop form, but you may have to splice out its metal sensor section to keep audio continuous.

### Music

Assuming that you'll be doing manual synchronizing, one of the best ways to get synchronized audio for either music or sound effects is to use the source side of an editing system to play the additional audio tracks. If you're working in VHS/S-VHS, this setup will also give you the full quality of the hi-fi tracks, rather than dubbing on the lower-quality linear track(s).

You'll need three VCRs altogether: the player and recorder of the editing system and a third one to copy everything onto. The player and recorder will each be playing back two to four audio tracks. Feed them into a small mixer and record the mix onto the third tape deck along with the picture.

Using an editing system to synchronize playback of additional tracks, you can achieve an accuracy of within a frame or two. Alternatively, or in addition to such automatic coordination, you can also do manual synchronizing, by releasing a music CD from pause at the appropriate moment. Or, at a slightly higher level of sophistication, you can create an "almost sync" tape with additional audio tracks.

### Almost in Sync

Simply assemble a single music track on a videocassette using hi-fi VHS tracks or 8mm AFM. The object is to put the music onto a videotape—not a regular audio cassette—and to have it all synchronized on a single tape that plays for the duration of the scene (or the complete project). Assemble this tape with your editing system. For greatest precision, use reference time code numbers (or elapsed time) from the edit master to cue the beginning and end points for each musical selection.

When you're ready for the final mix, use the old-fashioned pause-button technique to start playing this music track. The accuracy of this "almost sync" music isn't good enough for a music video in which cuts take

place on the beat, but for background music it will probably be sufficient, especially after you've practiced a few times. Unlike audio cassettes, you'll find that your "almost sync" videocassette recording won't drift out of sync with the master recording as time passes. You'll probably be able to go more than 15 or 20 minutes with the same timing error you had at the very beginning.

Note that to precisely edit together

the "almost sync" or edit-system synchronized recording, you may need to go down two generations of audio. First, a CD audio recording is copied onto a videocassette. Then that videocassette gets copied to the "almost sync" videocassette with very precise edit timing. Also note that when working with these types of audio-on-videocassette materials, the picture can be anything, such as color bars, but there must be a picture recorded

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## SOUND REASONING

on the tape as well. Don't leave the VCR's video input disconnected.

Incidentally, if you've got an A/B-roll edit system, you can attain even more precise sync. This is an obscure but very useful benefit of new, low-cost A/B edit controllers, such as FutureVideo's EditLink or Videonics' new AB-1. (The latter can actually sync up four VCRs with time code precision, offering access to reasonably synchronized eight-track record-

ing.) After the picture is mixed, the A/B-roll controller can synchronize a complex sound mix just by preparing appropriate sound source videotapes.

### The Mix Dilemma

I've been talking about these component audio tracks with the assumption that somehow at the end of the editing process a final audio mix will take place. Unfortunately, that's not the way most low-budget video pro-

ducers work. Instead, they simply consider the edited videotape, with its often choppy soundtrack, to be the completed, master recording.

This practice is particularly pervasive in 3/4-inch production, which offers only two audio tracks (though they're completely flexible). As a teacher in schools that relied heavily on the 3/4-inch format, I can't tell you how many tapes I've heard on stereo TV monitors in which voices popped in and out on the left side while music faded up and down on the right. Of course, the original idea behind this format was to mix the two tracks into mono during playback. (Recall that back in 1971, when 3/4-inch U-matic was introduced, AM radio was still far more popular than FM.) But when the A/V department delivers a stereo/TV monitor hooked up to a 3/4-inch deck, you can bet that Channel 1 of the 3/4-inch deck will go to the left speaker and Channel 2 to the right.

In film, where the soundtracks are edited on separate rolls of tape from the picture, the mix is an essential step for combining these separate physical entities into a single master recording. Video is inherently different in that the audio comes already married to picture, and this is actually an impediment to good sound-mixing technique.

The problem, in a nutshell, is that to really get the audio sounding good, you usually need to go down a generation just for the sake of the sound mix.

Playing an ambience track as you're editing dialogue isn't going to do much good, as the whole point of the ambience track is to smooth over any choppy in the sound of the edited dialogue. Chopping up the ambience into little snippets won't sound as good as a continuously recorded track. Ditto for music.

What you really want to be able to do is take the edited "master" tape you've created and do a mix, combining all the available tracks built into the tape—along with additional ambience and music tracks—into a new master recording with fully mixed stereo audio. But to do this you must usually sacrifice picture quality, going

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down a generation in video just to get good audio.

Since it's also extra work, most video producers simply ignore this final step. Of course, in the future, digital video recording systems such as the DVC format promise to virtually eliminate generation loss when video is copied, making this tradeoff moot.

### Audio Mix With No Video Loss

For the time being, if you want to be able to do a real audio mix but don't want to lose a generation of video, you'll need some fancy footwork and track juggling. Fortunately, if you have a frame-accurate time-code editing system, you may still be able to have your cake and eat it too with a technique called "lay back."

First, copy the audio tracks from the edited master tape to another tape, preferably using a time code editing system and copying to the exact same time code numbers on the new tape. (The picture on the new tape doesn't matter—it could be color bars or black.) If there are additional tracks available on this new tape for audio dubbing, by all means use this capability to record sound effects, narration or music.

Next, take the new tape out of the recorder, put it in the player, and put the edited master back in the recorder side of the editing system. Set up the same exact edit using the PCM tracks of Hi8, the linear track(s) of VHS/S-VHS, or the main audio tracks of 3/4-inch. Match the time code numbers for the start points on the two tapes, and let the edit last for as long as the scene runs. You'll be doing an audio dub on the tape master. As you play back the new audio tape, you can mix in ambience from a cassette recorder, an almost-sync music track playing on a hi-fi VCR, and any other additional sources.

This "lay back" technique requires absolute frame accuracy. Otherwise, the dialogue will end up a frame or two ahead of or behind the picture, a problem that audiences notice right away. If your equipment is slightly funky, you may find that you need to repeatedly try the edit several times until the sync is perfect. I'm assuming

that you have a four-input (or better) stereo audio mixer, which costs a few hundred dollars and is a worthwhile investment for any small video facility. Check out the eight-input Mackie MM1202 (\$399 list).

Incidentally, if you're working with S-VHS or VHS, there's another lay-back method that's a bit less complicated and doesn't risk losing sync, because the original dialogue tracks are never erased. The dialogue (or other sync sound) must be recorded on the hi-fi tracks, leaving the linear track free. But instead of just dubbing additional sounds onto the linear track, you can use it for the final mix. In other words, you'll set up the audio monitor of the VCR to play the hi-fi tracks, feed them into the mixer along with additional ambience, music and sound effects, and record the output from the mixer onto the linear track.

When using this technique, remember that the final mixed audio resides only on the linear track—not the hi-fi tracks. This means that audio fidelity isn't the best, though you managed to save a generation of picture quality. Unfortunately, such agonizing trade-offs come with the territory of low-budget video production.

WU

### Companies mentioned:

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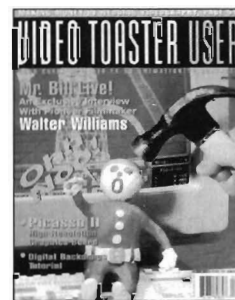
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# SLICES

## The Perfect Image

### Tools for Tweaking Video Signals

by James Hebert



Last month we touched upon monitor adjustment. This time we'll add to that discussion by exploring color bar generators, vectorscopes and waveform. [Editor's note: As this story went to press, we learned the Toaster's color bar pattern may not be useful as a measurement tool for video adjustment. It will be accurate enough for monitor adjustment; however, you should not make critical adjustments with a TBC without the use of a waveform/vectorscope.]

Without a properly adjusted monitor, you might tweak a time-base corrector to fix an apparent visual problem and, at the same moment, unknowingly drive your video levels well beyond the norm. While your gear might accept this overdriven signal, it can cause havoc down the line. A duplication house might send you back to re-edit the job; a client might use consumer equipment that cannot handle such a hot signal.

I come from a long line of equipment tweekers. Squeezing every last IRE out of a signal has become a habit. I just can't leave the video signal alone. To keep me from overdoing it, I have to use a certain amount of test and measurement equipment. I can't trust myself otherwise. (In my younger days, I trusted my eye alone and did very well. Now I know better.)

With a color bar generator, waveform and vectorscope, and a blue filter, I consider myself ready to rock. Since the Toaster can be used to display color bars, you can get by without the bar generator, but purists will want to monitor the Toaster's adjustments as well. Ultimately, I'd recommend buying one, unless you have a second Toaster you can use for this purpose. Fortunately, such equipment can now be put together for under \$2,000 (and, in a few months, maybe \$500 less than that). It's an investment worth considering.

#### Using Color Bars to Adjust VCR Playback

Let your gear warm up for 30 minutes or more to allow for the normal drift that characterizes electronic equipment.

Place a tape in your VCR and record five minutes of color bars. Use the same tape stock that you use for shooting and editing—i.e., the quality stuff. For the best signal on tape, record directly from the bar generator to the record deck.

Now insert the prerecorded color bar tape into your playback deck, rewind it, and play it into your system. Run it through the TBC (set to unity gain so that it does not alter the quality of the playback yet) so that you can monitor the bars coming through on the waveform and vectorscope.

The waveform monitor's output must be terminated, or else the display will be too tall. If you are using one of the more recent models that overlays its display on a video image, such as the DPS Personal V-Scope or the Feral Microscope, it's probably terminated at the monitor anyway.

Studying the video signal with a waveform and vectorscope is a lot like looking at it under a microscope shaped like a soda pop can. If you stand the can upright and view it from the side, where the video signal inside can be read as a set of peaks (the higher the peak, the brighter the signal), you're in waveform mode. If you look down on the can from the top end, you're in vectorscope mode, in which the distance from the center of the can to the outer edge indicates saturation, and rotation to the left or right around the can indicates hue.

Set your soda can—er, waveform controls—to the following positions:

- DC Restore (if present): On
- Frequency Response: Flat
- Display: 1 line
- Magnification: 1x

Adjust the horizontal position control so that the video signal display is centered and clear of any calibration markings along the edges. Align the vertical position control so that the solid line of the video signal representing 0 IRE falls exactly on the 0 IRE mark.

These settings should display a signal that looks a lot like Figure 1. In this case, the image is that of a "perfect" color bar pattern. Your VCR will be playing back a signal much like the one shown below.

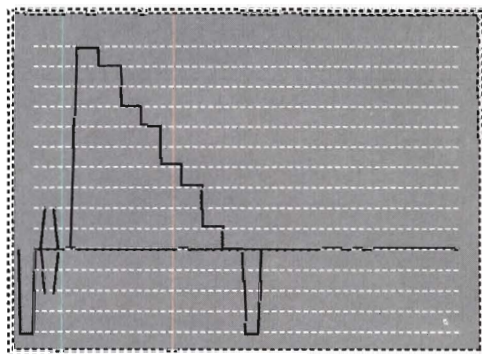


Figure 1

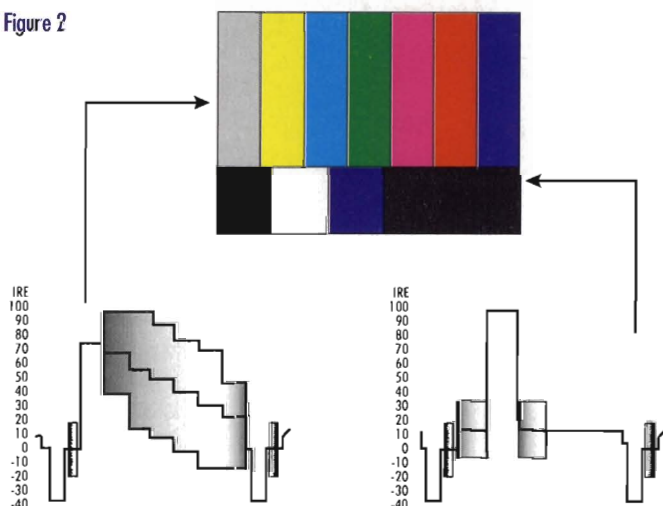
This display is actually two separate scan lines from the color bar image: one across the color bars that dominates the upper portion of the screen (containing the 3.58 MHz primary and complementary color subcarrier, along with luminance grayscale), and one across the lower one-fourth of the picture (containing the -I and +Q MHz color subcarrier, along with refer-



ence black and peak white levels). The two scan lines are, in effect, superimposed one atop the other in the display to appear as one image. Figure 2 shows the signals separated, to give you a better idea of each one.

The ability of your VCR to play back the recorded bars faithfully indicates how well it can reproduce the electronic signal that was recorded onto the tape. Typically, you'll find that luminance (seen on the waveform monitor) and saturation (seen on the vectorscope) will fall off some-

Figure 2



what when you get to playback. The less they change, the better the VCR.

This is where you use the time-base corrector to compensate for these losses.

- Adjust the black level on your TBC (labeled Black Level, Setup or Pedestal) until the line representing video black resides at 7.5 IRE. (In the video signal, 100 IRE is peak white, 7.5 IRE is black.)
- Adjust the video level on your TBC (labeled Video Level or Luminance) until the peak of the white color bar resides at 100 IRE on the scale.

Depending on your equipment, adjusting one level may cause the other to shift slightly. You may need to adjust each, in turn, until you reach a satisfactory setting. Once these values are accurate, you can be certain that the material playing back from this VCR is doing so at the correct levels.

Now turn to your vectorscope (or switch to vectorscope mode if you have a combination unit), which is used to show the accuracy of the

color portion of the video signal.

Set the vectorscope controls as follows: Rotate the phase of the vector display so that the color burst portion of the signal lies exactly at 180 degrees (the 9 o'clock position) on the graticule. Figure 3 shows an ideal vectorscope display of color bars. The color burst portion of the signal is your reference (as 0 IRE was for the waveform monitor).

The vectorscope can tell you (a) if the image has enough saturation, and (b) if its hue is correct. Saturation is shown by the bright dots at the end of each trace. These dots should fall within the six boxes labeled R, Mg, B, Cy, G and Yl. If the dots fall short of these boxes (i.e., closer to the center), saturation is low. If they lie toward the outer edge of the display, saturation is high.

- Adjust the hue setting on your TBC (possibly labeled Tint or Phase) until the dots fall as close as possible to the ruled boxes on screen. (This process is like turning the hand of a clock: you'll see the color vectors rotate around the face of the graticule as you adjust the hue.)
  - Adjust the saturation level on your TBC (possibly labeled Color or Chroma) until the display dots lie as close as possible to the inner boxes for each color. (This causes the display to expand or contract as you increase or decrease the amount of color in the signal. The color vectors will effectively move inward or outward on the display.)
- At this point you have successfully adjusted the VCR and TBC for correct playback. If you're fortunate enough to have a waveform/vectorscope with multiple inputs, you can run separate outputs from the bar generator to your VCR, TBC and waveform/vectorscope. Then you'll be able to check the "straight-through bars" signal with the "bars-via-VCR" and "bars-via-TBC" signals. This will give you an idea of

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## SLICES

signals. This will give you an idea of the quality of each item in your hookup, how much it may affect the incoming signal, and how much you need to adjust for it.

### Using Colors Bars From a Camera

Professional-level cameras have a built-in bar generator. The standard procedure is to (a) white balance

(and, if present, black balance) the camera, (b) record 30 to 60 seconds of bars at the beginning of the tape, and (c) begin shooting.

The bar generator in a camera is internal. Its position in the signal chain falls after the camera's pick-up circuitry. For this reason, the bars recorded from the camera's own bar generator will always be

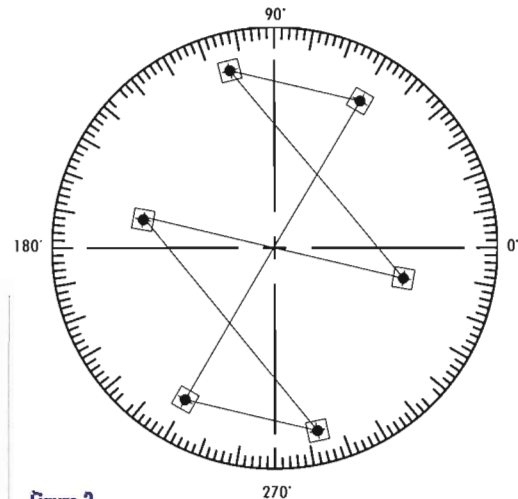


Figure 3

right, no matter how the camera has been adjusted.

If you set the white and black balances correctly your recorded video footage will be correct in terms of its signal, so that back at the studio, when you adjust this tape on the opening bars, the footage will also be correct. If things are not set correctly the bars will look right but the footage will look wrong. (Engineers use this method to distinguish properly shot footage from improperly shot footage. Bars look great, footage looks green.)

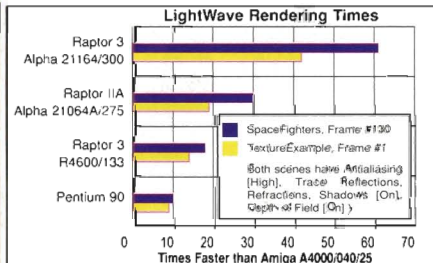
Note: Take the time to make sure that the camera is properly set up. Don't rely on your test gear and TBCs to fix mistakes in post. It's just not that easy, and the results never look as good as properly shot footage. An instructor of mine used to say, "Proper prior planning prevents perplexing problems."

Once you return to the studio, slip the tape into a VCR and play it back. Run it through the TBC and adjust the bars until they read correctly on the waveform and vectorscope. As you are viewing the waveform, adjust the TBC to set the correct brightness levels for the recorded material. While viewing the vectorscope, adjust the TBC to set the correct hue and saturation levels for the recording material. Once these settings are fixed, all of the footage from this session will be correctly adjusted.

You can, of course, record bars onto the head end of the tape at the studio. As long as the bar generator



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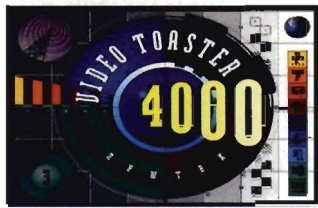
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itself is properly calibrated so that the bars are correct, you're in good shape.

### If Your Camera Has No Internal Bars

Buy one of these three items: a color bar chart for video (about \$60), a Macbeth color reference chart for photography (about \$45), or one of the Kodak professional reference guides that contains a smaller version of the color chart (about \$20). Each of these items can be used as a color reference to ensure reliable color balance.

In the field, under the lighting conditions in which you plan to shoot, record 30 to 60 seconds of the chart. The chart should fill the screen to provide maximum color samples. This effectively provides reference bars at the beginning of the tape utilizing the same picture conditions that exist for the recording session. Back at the studio, when adjusting bars so they look correct, you'll be adjusting for the entire recorded session.

If you're shooting outdoors, record bars every time the lighting alters. (Sunlight in the morning is different from noontime sunlight, and different if it gets overcast, and different in the afternoon.)

### Field Yield?

If your waveform/vectorscope is portable, like the Feral Microscope, you can bring it into the field and immediately monitor the quality of the video signal. This is the best solution, although it's admittedly not as convenient as slipping a bar chart in your pack.

I hope you've found these basic guidelines useful for recording reliable video. I have researched dozens of video production publications (heck, I own more of these books than I'm able to read) and I've yet to find a single one that contains this essential information, either in layman's terms or technical terms. (And let's face it: The traditional techno-speak of manuals, such as "The phase control adjusts the phase of the video signal," is no help.)

A broadcast engineer who is also a semi-professional photographer let me in on the tip of using a photo reference chart for shooting in the

field when a bar chart is unavailable. Thank you to an unnamed A/V guy for that.

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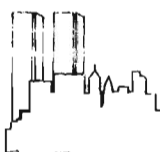
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FOR INFORMATION CIRCLE 126



# CYBERSPACE

## Make the Switch

### A Look at Image Format Converters

by Geoffrey Williams



**T**he last time I investigated image format converters, most of them did only a very specific task and few had the ability to convert IFF files to other formats. There was not even an IFF-to-JPEG utility that I was all that happy with. Now, someone has produced a commercial-quality converter that supports a good variety of both input and output formats. It's called GfxCon, and it is a great gift to the Amiga and Video Toaster community.

Written by Dick Farin, GfxCon can load a variety of formats, including ILBM, LBM, RGB8, RGBN, PCX, IMG, BMP, RLE4, RLE8, GIF, TIFF, JPEG, RGB-Raw and Targa. The program attempts to automatically determine the format type, but you can also specify this information in the box next to the load requester. GfxCon uses standard file requesters and pop-up menus for all functions. It can even handle

files that use three separate images for RGB, such as raw RGB images, and you can specify each file separately.

The software can also save in several

becomes very pixelated and jaggy-looking, but GfxCon has an interpolation option that will smooth out bitmaps when you increase their size. You can also flip images horizontally or vertically, or rotate them 90 degrees in either direction.

You can adjust brightness at levels between +255 to -255, and contrast from 1 to 100 percent. You can convert an image to grayscale, invert the colors, or make what looks like a photographic negative. And you can apply a red, green, blue, yellow, magenta, or cyan filter to the image, and even combine this with a linear grayscale.

The conversion process is relatively quick, and a window tells you what process is being performed while a status bar shows how far along the process is. One of the unique features of this program is that it has virtual memory, which works even if you have a 68000. If you have a 5MB image and only 3MB of available memory, GfxCon will swap out 2MB of the image onto your hard drive and still be able to do the conversion. Very impressive.

GfxCon has several other nice touches, such as an info button that will read a picture file and extract the information available in the header (size, number of colors, etc.). The current version does not display the pictures, and it does not have batch processing, but for a freeware program, it is impressively robust and full-featured. I strongly recommend adding it to your collection.

#### JPEG Coverage

Not long ago I wrote about a commercial utility called Pegger. Though I still think it's great, there is now a freely distributable program that offers some of Pegger's capabilities. AutoPEG, written by John Corigliano, is also freeware. This fine utility sits in the background, and whenever you attempt to load a JPEG file, it intercepts the file and converts it into a standard 24-bit IFF file, which it then passes along to the program you tried to load the JPEG into. What this means is that now any program that loads a 24-bit IFF file can directly load a JPEG file, even though the program itself has no JPEG capability. Though AutoPEG cannot save JPEGs, it is darned handy to have around. You can put it on a hot key so that it is enabled at the touch of a button whenever you are in a program that does not have JPEG and you want to load a JPEG file. The software comes with an installation script that makes setting up its vari-



GfxCon's simple interface lets you load and save a variety of image formats.

formats, including ILBM, PCX, GIF, JPEG, RGB-Raw and PostScript. Users can specify the level of JPEG compression and set the size of the PostScript output. The PostScript feature is intended primarily for allowing you to print images on PostScript printers.

One particularly nice feature is that you can specify the number of colors in the output file. For example, you could load a 24-bit image, convert it to 200 colors using the included Floyd-Stenberg dithering (which creates more colors than are actually in the image by dithering two colors together to make what looks like a third color), and then save it as a 256-color ILBM, which would leave 56 colors.

GfxCon contains a number of basic image-processing options. You can scale images up or down by adjusting the horizontal and vertical resolution. Normally, when you increase the size of an image, it



ous options—such as where to store temporary IFF files and whether to report on their status or not—a snap. To create a JPEG, use GfxCon, and you are fully JPEG-covered.

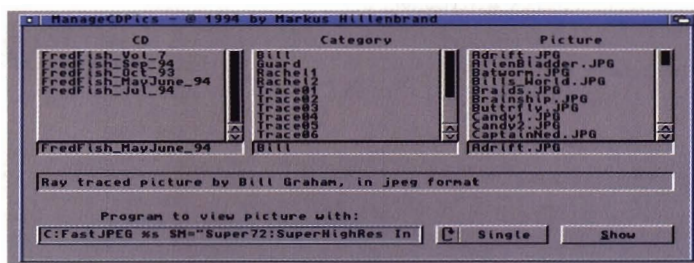
### PhotoCD Conversion

I am still a strong believer in the PhotoCD format, and use it professionally. The last standalone PhotoCD converter I looked at was a bit convoluted, while the others required a commercial image-processing program. Pascal Lauly's APCD eliminates these problems. Although it is limited to extracting images at a maximum resolution of 769x512 (it also does 192x128 and 384x256), it is quite fast. The main advantage is that it will convert a PhotoCD image directly into an IFF-24 image without having to do the two-step conversion that the other utility required. APCD is a CLI utility, but that makes it great for launching from scripts or directory utilities. It's quite easy to use.

Speaking of PhotoCD, it brings to mind a problem with CDs in general that have a lot of images on them: cataloging. There are utilities that use external image processors to create miniature icons, but they tend to be slow and the icons occupy a lot of disk space. For those interested in a leaner approach, Marcus Hillenbrand's ManageCDPics is a viable option. It was designed specifically for managing the large volumes of images found on CDs.

ManageCDPics has three main windows: the first displays the available databases, the second shows the categories within that database, and the last shows the individual images for the selected category. The text window below shows comments about the image you click on. The database itself is text-based, but you can set a CLI-runnable image viewer (or even converter) for each type of image so that it can be displayed or converted simply by double-clicking on its name in the list.

This software works with graphics cards and can be used to make a slideshow. It's pretty basic, but is easy to use and may be all you need to get your basic collections organized.



ManageCDPics features a database program that lets you organize and display your images.

### Dazzling Datatypes

I have written about datatypes several times in the past, but it was recently pointed out to me that not everyone knows what a datatype is. They are only important if you are using Workbench 3.0, where they are an integral part of the operating system. You can use the included Multiview program to display a wide variety of different file formats, including sounds, pictures and text. If you have the appropriate datatype you can display or play almost any type of file. Many of them are available on the Internet. In fact,

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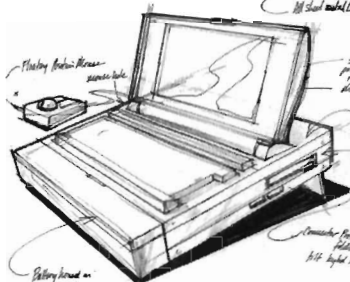
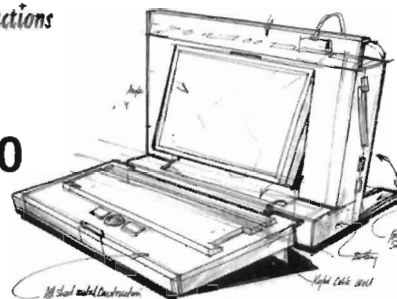
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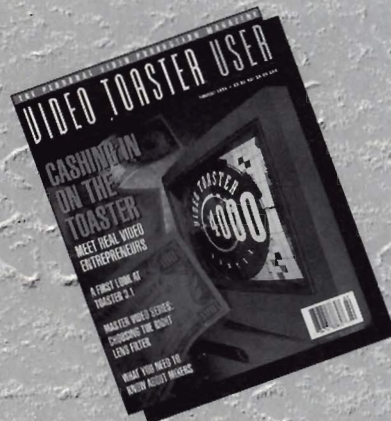
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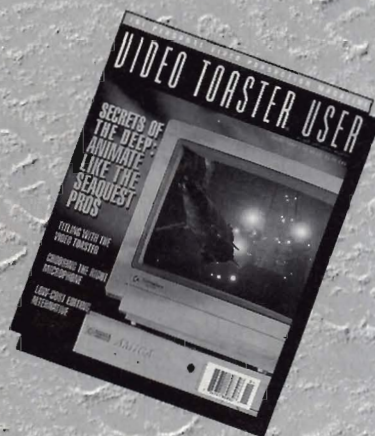


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## CYBERSPACE

Aminet has a directory just for datatypes. The following are a few for displaying pictures.

AMS, a collection of datatypes written by David Junod, is, believe it or not, an official Commodore release. In fact, this is the second collection of Commodore datatypes, issued just before the company collapsed. AMS includes a Sun audio datatype for Sun .au audio files types 1 through 5, an X-bitmap datatype for displaying X-Windows pictures, and an updated version of the picture datatype that improves the colormap capabilities.

Another Sun datatype, by Arthur Pijpurs, displays Sun Raster files in 256 colors, and automatically converts 24-bit Sun Raster files into HAM-8. The most recent version I have seen is 39.6.

Pijpurs is also the author of a Targa datatype that can display Targa files of 1 to 8, 15, 16, 24 and 32 bits. It uses HAM-8 mode for the color depths greater than 256, and ignores the alpha channel data in the 32-bit images. As with all Targa files that have no special header to identify their filetype, you need to make sure these have an extension of .tga for them to be recognized by any file reader.

Michael Zucchi wrote his GIF datatype to be the fastest available. The version I have is 39.14. It can load and display GIF files as quickly as loading and displaying a native IFF picture. It also uses asynchronous loading, meaning GIF images are displayed and converted as it is loading, rather than waiting for the entire file to load and then converting. This approach makes the entire process much faster.

Speaking of GIF, it was adopted by CompuServe as a standard format for exchanging images. Unfortunately, the service did not own the rights to a key part of the code that makes GIF compression possible, and the company that does own the rights decided to demand royalties for incorporating GIF code in a product. Of course, this threw everyone into a tizzy, and the bottom line is that GIF is pretty much dead as a viable format and is no longer officially supported by anyone. Last I heard there were some concessions made to those writing public domain display programs, but everyone is still a little nervous.

Eventually, CompuServe will develop a new standard, but in the meantime, GIF is left languishing, and many developers of commercial image-processing and conversion products have simply removed all GIF capability in current releases.

There is a great datatype for JPEG written by Christoph Feck, based on his JPEG Tower Codec. The JPEG Tower Codec is important because it is also used by a number of public domain programs for displaying or loading JPEG files.

A good example of a utility that uses the JPEG Tower Codec is John Hendrikx's FastView. It can display IFF, GIF and JPEG images, and renders them very quickly in a HAM display mode, taking full advantage of AGA's HAM-8 mode, or in 256 colors, if that is the original image resolution. The HAM images on a non-AGA machine are a little coarse, but they are displayed very quickly and are fine for doing a quick preview of an image. FastView can scale an image and add dithering, and lets you scroll around an image larger than the screen. It even has a delay option so that you can show a series of images as a slideshow, and it will wait before the next image is rendered before displaying it.

Markus Hillenbrand is also the author of DT2IFF. Typically, datatypes are used to allow datatype-compatible programs to load a variety of formats. The purpose of DT2IFF is to use datatypes to convert a picture in any format supported by a datatype into a standard IFF image. If you have enough datatypes, it acts as a simple universal converter.

Most of these programs are available on the Internet or through a BBS that supports Amiga graphics applications. If you do not want to hunt them down, I have put them all on a disk you can pick up by sending \$5 to Geoffrey Williams, Picture Disk Offer, 1833 Verdugo Vista Drive, Glendale, CA 91208.

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### Video Toaster User

"LightWave modelers and animators should make the WarpEngine an immediate addition to their system. Even Raptor owners will benefit from the faster response of both the modeler and layout screens. MSD boasts that the WarpEngine's SCSI-2 is the Fastest available...and I found their claim to be justified...Bursts of 9MB/s with my Barracuda drive and sustained rates of 6MB/s."

Tim Dougherty - VTU, Oct. 1994.

### Amiga Computing Blue Chip Award.

"Although there are a number of acceleration systems for the A4000 and A3000 this is far and away the best yet. The WarpEngine provides jaw dropping performance. The fastest all round acceleration and data transfer system on the Amiga."

Paul Austin - Amiga Computing, Nov. 1994.

### AmigaFormat Gold Award

"The Hottest piece of silicon he's ever stuck in an A4000... The efficient DMA design means the CPU doesn't have to constantly deal with the data transfers, so it's ideal for situations which need both processing power and fast data throughput, such as animation."

John Kennedy - AmigaFormat, Sept. 1994.

### Amiga Shopper Best Buy.

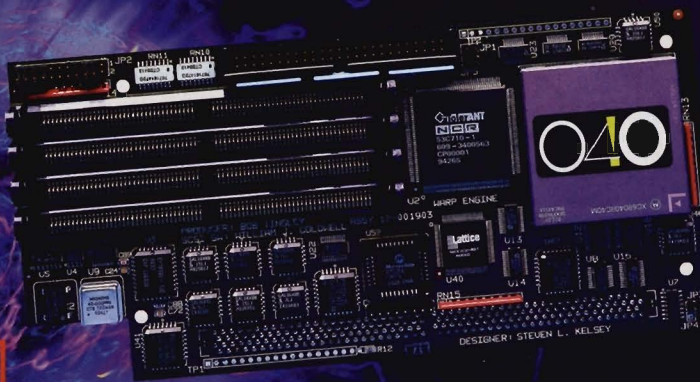
"If you want to push your A4000 forward and add SCSI peripherals at the same time, This is the card I would recommend."

Richard Baguley - Amiga Shopper, Oct. 1994.

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FOR INFORMATION CIRCLE 118



# MASS

S T O R A G E

BY FRANK KELLY

Illustration by Tom Twohy





[

**J**ust five years ago, the largest hard drives available for desktop computers were limited to 100MB and cost roughly \$1,000 each. Today you can buy a 1GB (1,000MB) drive for about \$400 and larger hard drive capacities are available up to 2GB. There are several form factors (physical sizes), two major protocols (SCSI and IDE) and many manufacturers from which to choose. As we rush head first into the era of non-linear editing systems, selecting the right mass storage devices (both hard drives and tape/disk backup systems) becomes extremely important. A standard "off-the-shelf" hard drive probably won't be able to attain the incredibly demanding performance requirements for broadcast-quality audio/video work. Conventional tape or disk backup systems may not be efficient enough to use for any practical purposes. In short, it's a jungle out there, so you need to arm yourself with some information before opening your checkbook. I've chosen to evaluate a few of the drives that were on NewTek's Video Flyer compatibility list at press time. We'll also explore some tape backup solutions.

A non-linear editing system (NLE) is roughly analogous to a digital version of a videotape deck (in virtual form), and the hard drives are its recording media, or "tape." In many instances the majority of currently available NLE systems will test the hard drive you install and adjust its internal compression ratio for the optimum performance with that particular unit within a given range of available video qualities. The performance is in a sense "tuned" to the maximum output capabilities of the drive. If the unit cannot perform up to the data transfer rate required for optimum video quality, you could be losing the capability to attain a certain video fidelity.

Some NLE systems come pre-configured with hard drives designed especially for audio/video applications. Others allow you to choose which drives you wish to install. Obviously, the bigger the hard drive, the more capacity you will have to store audio and video information, and the larger your investment. In the case of NewTek's Video Flyer, you can start with relatively inexpensive, entry-level storage capacities (2GB for each of the two minimum required video drives, 500MB or smaller for the single audio drive) and add other drives to the system when you wish to upgrade. When the original Flyers began shipping, only certain models from a very short list of manufacturers were guaranteed to work reliably, and at first, these drives were available exclusively through NewTek.



Now the company provides a published list with more drives and their tested firmware revisions. Flyer owners now have access to utility software that allows testing of drives to see if they are likely to perform reliably. With several manufacturers claiming their drives are A/V-rated or "compatible" for A/V use, and NewTek unable to test every model available, knowing which drive model or firmware revision will work properly can be difficult. NewTek has established a BBS that is frequented by Flyer dealers and end users. This is a good source of information about drives that may or may not be on NewTek's list but have been tested by others and proven to be reliable. Another resource is CompuServe's Information Service. NewTek has a section in the Amiga Vendor Forum

larger storage capacities. Because the materials inside the drive expand as heat builds up over time, the track's location relative to a physical reference point on the drive platter actually moves enough to cause seek errors. For this reason, special algorithms are used by the drive's electronics to adjust for these physical shifts in the location of information on the drive. These particular drives will check data on certain physical locations on the drive platters and recalibrate the mechanics of the unit at specific intervals. If these adjustments occur too often, it is possible (and likely) that your video clips will stutter or lock up under certain circumstances. NewTek's drive test utility helps you identify and eliminate such drives. It should be noted that the drive test utility only works

with the Flyer's own SCSI ports, and therefore cannot be used without a Flyer.

Another way manufacturers optimize a drive's performance is to add a special block of random access memory on the drive, called a "cache." This memory cache is used to speed access to information often located on the drive. The stored cache parameters will sometimes be used to "predict" an area that is likely to

be accessed (usually operating system directory calls) and shorten access times. Other read and write characteristics affected by cache settings can be optimized for an individual drive's performance. A/V drives use this cache a bit differently than drives designed for storing conventional data. There is a selection on the Flyer Format menu to "Set Cache," which sets this option to maintain optimal performance with the Flyer.

Not all drives stating A/V compatibility are specifically suited for the Flyer. A perfect example is the Micropolis A/V series. The A/V model supplied by Micropolis for testing (1991 A/V) at press time was specifically designed to provide data at a particular "fetch rate" corresponding to a full frame of video every 30th of a second. The Flyer actually uses smaller chunks of data at more frequent intervals, resulting in dropped frames during digitizing and stutter on playback with the Micropolis A/V drives. Conversely, the non-A/V Series drive with

the same model number performed magnificently and was equal to or better than other models tested. It's worth noting that Micropolis is aware of this situation and is working to optimize the A/V series' compatibility with the Flyer.

Other drives tested in preparation of this article were the Quantum Atlas and Grand Prix series. Of all the individual drives I tested, these Quantum models proved to be the least prone to dropping frames on capture and stutter on playback using the HQ-5 mode of Flyer version 4.03. This quality setting uses the lowest compression setting currently available to Flyer owners and places the highest demands on the card's video drives. I already own the current release of the Seagate Barracuda series (9GB and 4GB) and have experienced some dropped frames and stutters using this setting. The 4.03 software provides a patch that changes the way the Flyer works with the Seagate drives. When I used this patch I was able to eliminate or greatly reduce the capture and stutter problems.

When performing tests of all the drive units, I used what I felt to be very demanding source material (action sequences from *Jurassic Park* taken directly from laser disc and BetacamSP footage I shot myself) containing a diverse range of subject matter and tremendous dynamic range, both audio and video. The Flyer's flaws in picture quality are few, but easily spotted when using selected material. Very brightly lit sequences that also contain a large amount of dark area will cause a certain amount of "flashing" to occur. Scenes with complex line patterns adjacent to high-contrast objects, such as a light background with a relatively dark bookcase, will cause something akin to "ghosting" or loss of color. Areas of the picture that contain highly saturated color adjacent to dark or low-light areas will exhibit a small amount of chroma noise.

It should be noted that these problems all but disappear when using the HQ-5 settings, but are readily apparent in the "Standard" compression mode when capturing footage. By the time you read this, it is likely that NewTek will have written a patch to fix these problems, but for the sake of testing purposes I used the "Standard" capture settings and chose footage that was most prone to bring about these problems to determine comparative performance from drive to drive. I also tested each drive using the HQ-5 settings for long periods of capture and continuous playback in an effort to determine which drives might exhibit problems with large file sizes and heat buildup. I used an identical test project containing a number of cuts, dissolves, framestores and keys. A music bed and narration and split audio seg-



Micropolis A/V Gold Series

that is quite active, with user reports from Flyer owners all over the United States.

### The Magical Mysteries of A/V Hard Drives

The predominant specification listed in ads for a given drive is usually the access, or seek, time. This figure has little bearing on how that drive will perform when transferring large amounts of data to and from the hard drive. The specification that is most important for A/V drives is the sustained data transfer rate. To attain "broadcastable" or "on-line" video quality, hard drives used with the Flyer must maintain a sustained data transfer rate of just under 4MB per second. Another important specification to pay attention to is thermal recalibration. Recent strides in higher storage capacities and smaller form factors have been made possible through higher-density storage media and much narrower tracks for storing information. These tracks are packed much closer together to achieve the density required for



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FOR INFORMATION CIRCLE 123





# THE CD PARADE:

LightWave Illustration by Bruce Bramit





# TEXTURES & OBJECTS

R. Shamms Mortier

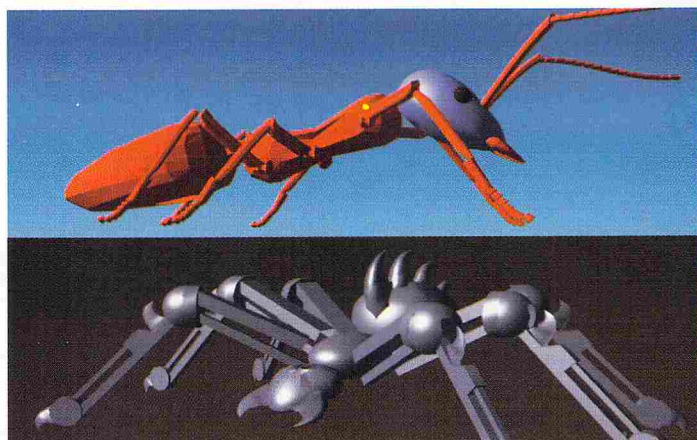
**H**elp! Help! I've fallen in a megapile of CDs and I can't get up! The geometric rise in the availability of CD-ROMs containing both textures and 3D models that the LightWave user can tap into is starting to overwhelm even the most diligent aficionados of 3D art and animation. Wasn't it only about a year or so ago when the then-tiny CD market had only two or three discs with useful graphic data for the LightWave user? Now catalogs are overflowing with volumes of great CD bargains, and even the vendors of 3D programs are putting their wares (including the programs themselves) on a CD-ROM for all manner of platform-handshaking markets. With the coming explosion and drop in the price of CD-ROM



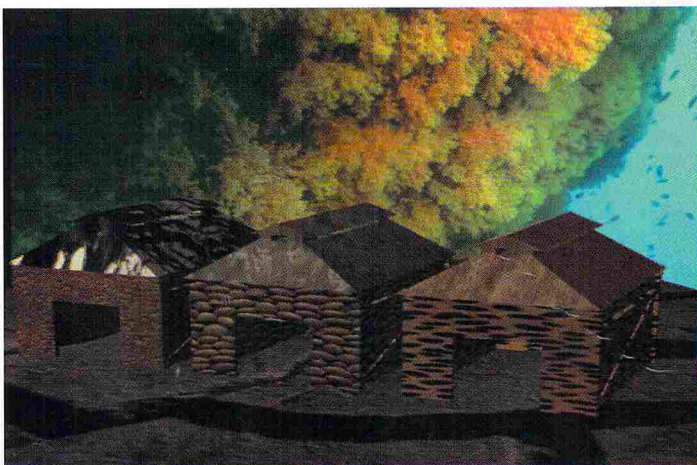
authoring hardware and readers, you can expect a continual upward movement of this trend. And with HD-CD technology on the way, it won't be long before you'll have access to CD-ROMs containing gigabytes of data, as opposed to the current 650MB to 700MB limit.

We'll look at discs from various manufacturers that feature both textures and 3D objects for the LightWave user to explore. If you don't have a CD-ROM drive yet, perhaps this article might influence you to take the jump. At this juncture, no digital artist or animator can afford to be caught without at least one CD-ROM drive. As you'll see by the wealth of data contained in the following volumes, it's well worth it.





These 3D insect models live in the LIGHT-ROM 2 collection. The ant's head and spider's body were textured with new chrome options in the disc's texture library.



These three barns from LIGHT-ROM 2 are textured with Texture Gallery art, everything from tinfoil to beans to leopard skin. In the background is an image from Corel's Underwater Reefs CD. See the fish?



The Syndesis CD-ROMs are packed with LightWave objects that are easy to place in 3D scenes.

## LIGHT-ROM 2

Following on the success of the original LIGHT-ROM, this CD is packed with LightWave-specific data and ready for users who work on multiple platforms, as the images and textures are in IFF24, JPEG and Targa formats. One of the nicest features is a collection of animated bitmaps, most in low-res 32-color and 8-color: Bigbang, Flames, Kidspots, Rocketjet, Sparks, Spiral and Stars. They come in both ANIM5 and single IFF frame formats, and just beg for inclusion in your LightWave animations—especially Flames (nice for digital fireplaces) and Stars and Spiral (great for a flying space backdrop). As for LightWave objects and utilities, there are 43 separate drawers on board. Some of these objects will require turning on “double-sided polygons” in LightWave for them to render correctly. Many of them are never-before-seen 3D structures that can fill in many of the blank areas in your 3D objects library. Want more for your cash? How about 13 new Switcher wipes and more than 100 CG fonts? This CD-ROM is a must-have for Toasterites and standalone LightWave users.

## Texture Gallery

This two-disc set, another offering from Mike Meshew of Graphic Detail, is devoted to textures in multiple formats: TIFF, SGI, Pict, IFF, JPEG and Targa. Since the Toaster is now a multi-platform reality, users should look for CD-ROMs that offer PC graphic formats in addition to Amiga files (IFFs), though JPEGs are common to all platforms. There are 30 libraries of textures here with every category you can imagine, including carpets, greenery, metal, rock, skin and more. Each category contains multiple image files. There are 10 textures, for instance, in the “Organic” category, while some of the other divisions contain dozens of entries. The textures are generally half-screen size, but the detail is excellent for wrapping 3D images. Remember that as far as wrapping a 3D object in LightWave, smaller-sized texture maps can actually show more detail in a medium shot. An indexed visual catalog of thumbnails accompanies the libraries.

## Syndesis 3D ROMs Volume I and II

Syndesis Corporation should be applauded as one of the first developers of CD-ROM libraries to take the plunge via the Amiga environment, setting the pace for companies that followed. Known for its extensive and quality work on the Toaster's TIO module, Syndesis has two CD-ROM volumes packed with 3D objects in multiple formats, including LightWave. Volume I has more than 500 models, and Volume II over 200 models. The Syndesis volumes include the ViewTech system for seeing pictures and animations on the CD, and each volume comes with multiple instructions for using this system. Most of the models on these CD-ROMs have been collected from BBS and Internet sources over time, and Syndesis invites the authors/sculptors a reward of a free CD-ROM for their contributions. The company makes the same offer to anyone who wants to submit a 3D model or a demo of their modeling wares for inclusion in upcoming packages. The selection of LightWave models and scenes on these discs is massive, and includes never-before-seen objects. In addition, you can use Syndesis Interchange-Plus software on the Amiga to translate models



from these CD-ROMs that come in non-LightWave object formats to LightWave, giving you even more object choices. The LightWave models come with all textures in place for fast placement and rendering.

### Aztech New Media Corporation

We're only alluding to Aztech's Visual Rhythms (Volumes 1 and 2) here, but we'll take another look at other Aztech offerings in future CD-ROM reviews. Aztech CDs are multi-platform (PC, Mac, Unix) and cover a wealth of different topics useful to the graphics and videographics professional. The company offers a sampler disk (\$29.95) that gives an overview of the territories it addresses, and can supply you with full-color 27-inch x 40-inch posters depicting the subject matter on its Photophile CD-ROMs.

What distinguishes these discs from other vendor's selections? It seems that Aztech has gone out of its way to hire the services of top photographers in many fields to produce the original imagery. The images are supplied in both low-res and high-res, the first being sufficient for video usage. My favorite images in these collections are the more organic ones (flowers and vegetables), and there are plenty of them. They make unique texture maps. Each disc contains 100 images in all, and includes previewing utilities for those running Macs or PCs. Their price and original imagery make these products a bargain.

### Corel Corporation

Corel Corporation, known for its drawing and painting software for the PC, is also a developer of note when it comes to the variety and quantity of real Kodak CD imagery volumes. Given that Corel has dozens of CDs on almost every conceivable subject, Toaster users would be well-advised to consider perusing one of this company's catalogs. I've chosen two image volumes by Corel that LightWave users can have a lot of visual fun exploring as background images and texture maps: Underwater Reefs and Religious Stained Glass. Each volume contains 100 images in Kodak format, meaning that each image comes in three separate resolutions. The lowest resolution, usually about 600x500 (which you can crop in a suitable paint program), is best for video, unless you want to take one of the larger resolutions and reduce it. (Remember that Kodak PhotoCDs have a small black framed area around the image that usually has to be cropped out.) You can purchase the entire 20,000-image set of Corel CD-ROMs for about \$900.

### Expresiv Textures

No, I didn't spell it wrong. The textures contained on this CD-ROM are limited in number but maximized in the quality of format delivery. The files are separated into different sampling ratios, so it is possible to get a very high-quality rendering of a specific texture for print or a lesser value for NTSC video. The various drawers—Print, Large, Screen, Tiles and Shapes—represent different image qualities and sizes. The Print drawer contains images so large that they are all in JPEG, and even then there are some that are well over 1MB compressed, 5MB decompressed. The Large drawer has the images in TIFF format at about 1MB to 1-1/2MB, while down in the Tiles drawer the same image is about half the size. The Shapes drawer has the images configured and separated



Aztech offers very high-quality images that give the 3D artist and animator unique choices for altering the look of objects, especially with organic images.

so that they will wrap neatly on a cube, sphere or tetrahedron. The actual textures number only 16, from agate to forest to fossil to retina veins, but each is of extremely high quality. If you are going to zoom close to a texture in your LightWave animations, consider this CD-ROM collection.

### Key PhotoClips

This compilation is one of the best bargains you can get. There are two discs packed with hundreds of photos in dozens of categories. I found more than a few images here that my clients requested for video backdrops, especially the mountain and desert scenery selections. The image categories range all the way from agriculture to fashion to Mexico to surfing to wolves—almost 200 categories! Each category has from one to several dozen images. They can all be resized in the image manipulation program of your choice (such as ImageFX), and they're all in the standard BMP format. Those who plan to use the Toaster as a PC peripheral will appreciate the BMP format used by this CD-ROM, but should be aware that Adobe's Photoshop software does not import BMPs directly, so they'll have to be translated first. SoftKey International, the developer of Key PhotoClips, has set the ambitious goal of supplying the



A majestic Alaskan landscape from the SoftKey PhotoClips CD acts as a backdrop for these oval shapes mapped with textures from Expresiv Textures.



graphics industry with dozens of volumes of texture and background CDs each year.

You can either export a rendering to ToasterPaint to tweak it or render the textures on a flat plane in StrataVision



A closeup of a Corel underwater plant looks like a tree as it looms in back of "glass" walls covered with Stained Glass images. The "sand" texture on the base is from the Expressive Textures collection.



3D objects and textures abound on the Strata CD libraries. These objects were saved as DXF files and rendered in LightWave with the Strata textures.

### Strata Clip 3D Libraries

Though this product might cost you \$1,000 if you unlocked all of its separate texture and object libraries, there is a wealth of material here to savor if you are an obsessive digital artist and animator. Strata Clip 3D Libraries is for Mac users (or those who run the Utilities Unlimited EMPLANT Mac emulator on their Amigas) who also own StrataVision3D or StrataStudio. Porting the output to Toaster applications can be accomplished in one of two ways.

or StrataStudio, and after saving them into a properly translated file format, use them as LightWave image textures. The models, which include quite a few from the respected Viewpoint Data Labs, can be saved as DXF files and ported over. The extensiveness of these libraries almost boggles the mind, and all dedicated artists and animators should be able to get obsessive thrills from their use.



### Companies mentioned:

Amiga Library Services  
(LIGHT-ROM 2—\$39.95;  
Texture Gallery—\$44.95)  
610 N. Alma School Rd., Ste. 18  
Chandler, AZ 85224  
(602) 491-0048 Voice/Fax  
**FOR INFORMATION CIRCLE 50**

Aztech New Media Corporation  
(Visual Rhythms Volumes 1 and 2—  
\$29.95 each or \$49.95 for both)  
1 Scarsdale Road  
Don Mills, Ontario  
M3B 2R2 Canada  
(416) 449-4787  
Fax (416) 449-1058  
**FOR INFORMATION CIRCLE 51**

Corel Corporation Limited  
(Corel Professional PhotoCD collections—starting at \$29.95 per 100-image volume)  
3rd Floor, Europa House,  
Harcourt St.  
Dublin 2, Ireland  
353-1-478-1900  
**FOR INFORMATION CIRCLE 52**

World Art Inc.  
(Expressive Textures—\$39.95)  
One Datan Center, Ste. 1500  
9100 S. Dadeland Blvd.  
Miami, FL 33156  
**FOR INFORMATION CIRCLE 53**

SoftKey International  
(Key PhotoClips—\$29.95 each)  
201 Broadway  
Cambridge, MA 02139  
(617) 494-1200  
**FOR INFORMATION CIRCLE 54**

Strata Corporation  
(Strata Clip 3D Libraries—\$49.00 per library; discounts on multiple volumes purchased)  
7 West St. George Blvd.  
St. George, UT 84770  
(800) 787-2823  
**FOR INFORMATION CIRCLE 55**

Syndesis Corporation  
(Syndesis 3D-ROMs Volumes I and II—\$79.00 each)  
235 South Main St.  
Jefferson, WI 53549  
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**FOR INFORMATION CIRCLE 56**



# LightWave & Toaster Training Seminars at SIGGRAPH

Universal City Hilton & Towers  
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Thursday, August 10

## 9:30am - 11:30am

**Introduction to LightWave Layout**—Brad Hayes, LightWave animator and owner of Hayes Visual Communication

**Camera Techniques**—Dan Ablan, LightWave animator for AGA, based in Chicago, and LIGHTWAVEPRO author

**Modeling Practices I: Tools & Techniques for Everyday Use**—Kyle Thatch, Video Toaster User author and president of Synthetic Design Images, Inc. in Louisville, KY

## 1:00pm - 3:00pm

**LightWave Compositing for Video**—Brad Hayes

**Beginner's Guide to Modeler**—TBA

**Real World Lighting**—Dan Ablan

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answered by some of the  
world's TOP LightWave 3D  
and Video Toaster  
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## 3:30pm - 5:30pm

**The Best Logos**—Dan Ablan

**Modeling Practices II: Making Objects from Start to Finish**—Kyle Thatch

**Real World Effects II: Advanced LightWave Special Effects Techniques**—Grant Boucher, Supervising Animator for Amblin Imaging in Burbank, CA and LIGHTWAVEPRO author

Friday, August 11

## 9:30am - 11:30am

**Creating Great Graphics with the Video Toaster**—Bob Anderson, NewTek Video Toaster Evangelist

**Advanced LightWave: Metaform and Spline-based Modeling**—Jason Linhart, LightWave Specialist with NewTek, Inc.

**The Multi-platform Toaster**—Brad Peebler, LightWave Product Manager with NewTek, Inc.

## 1:00pm - 3:00pm

**Killer Text: Titling with the Video Toaster**—James Hebert, Senior Technical Writer for NewTek, Inc.

**Bones and Character Animation**—Jason Linhart

**Advanced Surfacing Masters Class**—Brad Peebler

## 3:30pm - 5:30pm

**Editing with the Video Toaster Flyer**—James Hebert

**Power ToasterPaint Techniques**—Bob Anderson

**Advanced LightWave 3D: Open Forum Q&A**—John Gross, Supervising Animator for Amblin Imaging and Editor of LIGHTWAVEPRO

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## MediaPhile

by Geoffrey Williams

There are plenty of editing systems available if you have lots of money, but what if you are on a slightly tighter budget? Interactive MicroSystems offers a solution that gives you much of the powerful capability of the more expensive systems, but at a much lower cost and using less expensive editing decks.

MediaPhile is a modular system designed for assemble and A/B-roll video editing. You can choose from a variety of video deck control options, combining different decks and different formats. There are units to control both RS-232/422 and CTL-L/LANCS ports. For consumer and prosumer units that can be controlled through infrared remotes, a combination of a universal programmable remote and an easily installed cable that counts the pulses and keeps track of tape movement is used. This combination, along with MediaPhile's ability to read and write SMPTE time code, makes it possible to do near-frame-accurate editing on even fairly inexpensive decks. Accuracy of  $\pm 1$  frame is possible on a wide range of popular decks, such as the JVC 10000, Panasonic AG-1960, 7750 or 5700, and the Sony CVD-1000 Hi8mm, EVS 900 and 800 decks. Other decks may range between  $\pm 3$  to 5 frames. The universal remote can also be used to control devices such as a laser disc player.

The MediaPhile system comes with configuration files for nearly 100 differ-

ent video decks and devices. You can also easily customize your own controller for any deck; it is very flexible and can be set up for almost any system. The controllers can even be daisy-chained in some configurations, allowing for a wide variety of control options.

The MediaEditor software features a standard edit decision list with more than 1,000 entries. It provides all the basics of logging inpoints and outpoints and doing cut-and-paste operations. It has a preview mode with a seven-second freeze at the inpoints and outpoints.



A few advanced features, such as list rippling and the ability to save out different EDL list formats for doing offline editing, are missing from the software. But it's perfectly adequate for most users.

The EDL works with the different MediaPhile control units, giving you control over the decks, switchers, laser disc players, genlocks and the Video Toaster. Control over the Toaster is through ARExx, but many scripts have been provided that can be launched from the EDL. A universal Toaster script is included that lets you pass simple command line arguments, such as Auto, to perform a transition. It would be nicer if there was a Toaster control interface built in, but you can always use the interface from one of the Toaster sequencing programs, which can be launched from within the MediaPhile EDL that directly uses the generated ARExx script.

Programs can also be run from within the EDL. For example, if you want to record an animation, just load it and hold the first frame using the included player program. The EDL can then perform a transition to display the animation, send it a command to start playing a specified number of loops, and transition again to the next video sequence.

There is no direct support included for the PAR animation system, but it can easily be controlled using standard

ARExx commands. This is true for any hardware or software that is ARExx-compatible.

There are also optional software packages. Mediabase, a database program, allows you to organize and display audio and video selections from a variety of devices. The Media Controller provides direct control over a variety of devices and software for interactive demonstrations and simple editing. MediaController has some very interesting features, such as the ability to cross-map the keyboard so that, when you press the key to play an animation in DeluxePaint, for example, it also starts recording on the video deck. A unique single-frame recording option gives you as accurate as two-frames-per-image recording of an animation frame by frame on decks that are not single-frame capable.

Contact Interactive MicroSystems directly or see a dealer to help you choose the control modules that you need. Thanks to the flexibility of the system, you should be able to find what you need for almost any combination of equipment.

**FOR INFORMATION CIRCLE 57**

## MediaPhile

**Price:** \$295

**Product type:** Editing System

**Minimum system:** 1.5MB of RAM

**Recommended system:** 5MB or more for multitasking

**Company:**

Interactive MicroSystems

9 Red Roof Lane, Ste. 2

Salem, NH 03079-2929

(603) 898-3545

## Flite Gear

by Frank Kelly

When the Flyer was first publicly previewed there was much discussion by NewTek regarding third-party support. Many ARExx hooks were to be included that would allow other developers unprecedented control over some of this machine's functions. Now that NewTek has shipped an official release version of the Flyer, we begin a new era in the company's glasnost with the rest of the software community at large. Flite Gear is the first third-party software package designed specifically for Flyer users and those who will be purchasing the Toaster 4.0 standalone upgrade. It's a neat collection of utilities that can save hours of production time and provide access to some of the Flyer's lesser-known capabilities implemented in the 4.03 release. Those purchasing NewTek's Toaster 4.0 upgrade will also find many uses for Flite Gear.



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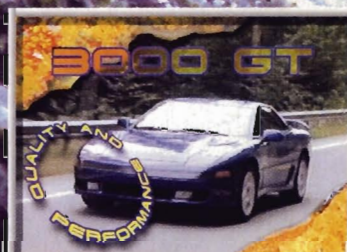
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At the outset I want to stress that this is not a product review, but a first look at a package that, at press time, is built specifically for the 4.03 version of the Flyer. There is a chance that some of the features now functional may be implemented differently or even not possible should NewTek decide not to support its own ARexx scripts in future releases. I advise anyone interested in purchasing Flite Gear to contact Atomic Toaster for updated information on this issue. I am confident that Atomic will promptly make any and all appropriate adjustments to its software to accommodate any changes to ARexx controls that may come with NewTek's maintenance releases of its software. That being said, let's explore Flite Gear.

### Fancy Features

The easiest way to describe this product is to say it's a group of utilities that provides an alternate front end to the Flyer interface. Using ARexx, Flite Gear not only controls the Toaster/Flyer functions, but also allows the use of other productivity software that supports ARexx commands. The program itself runs concurrently with the Switcher, and can be used instead of, or in tandem with, many of the Switcher and editor features. Tasks such as viewing and digitizing clips or cataloging and viewing CG pages, framestores and effects are controlled from within modules specially designed to streamline the process of pre- and post-production. The batch-digitizing and restore feature (implemented with RS422 VTRs with SMPTE time code and the use of Nucleus Electronic's Personal SFC/Editor software) allows you to save hours backing up and restoring your projects. One of the questions that first surfaced when the Flyer was announced had to do with machine control of source VTRs for intensive digitizing based on edit decision lists. Flite Gear addresses a portion of this issue through its own logging module. It allows you to set inpoints and outpoints from keyboard hotkeys while viewing footage on the fly.

Transport controls for the VTR are displayed on the screen for easy viewing of your footage without having to physically operate the VTR. (Working with CMX edit export requires an optional software module that Atomic Toaster was finishing at press time.) There's even a module that tracks expenses related to a project, complete with a built-in time billing feature. For Flite Gear's \$229, those features alone would probably be enough. In fact, there are those who would buy the package at that price for just the batch-digitizing function. But just as the ads for certain Ginsu knives say: "But wait—there's *more!*"

Let's say you have an entire directory of JPEG images and you want to use some of them as title screen backdrops in ToasterCG. Before deciding

or effect that for some reason doesn't work properly when applied directly to a digitized clip in Flyer 4.03. Use Flite Gear to set the Flyer into a remote digitize mode that gives you full control over the Switcher interface while digitizing your clip (from its original video source) with the Toaster's main output. You can pre-load several effects, key pages, scrolls, etc., into the Flyer's editor screen and click on each to activate it while selecting various input sources. Meanwhile, your Flyer is digitizing the footage. This adds a tremendous amount of flexibility to working with the Flyer. Quite often, when working with framestores or keyed CG pages, the minimum duration times set for these elements are too short to permit the Flyer to execute certain transitions (approximately 2.5 seconds). By using

Flight Gear's remote digitize function and manually controlling the transitions into the clip at the time of capture, you can overcome this limitation quite easily.

### Logger Interface

Though Flite Gear consists of several modules, the heart of the system is the logger interface screen. From this part of the software, you assemble all the elements for your project and save a log file. This log file is used by Flite Gear's other mod-



ules to provide quick access to other utility features. The lister utility makes short work of the process of assembling a project by allowing you to quickly load clips, framestores, transitions and CGs into a "list" that is easily modified without having to navigate through several folders to find each element. Flite Gear also allows you to pre-select six of your favorite effects and have them easily available from this screen.

Those accustomed to having to select either picture icons or name listings of their clips and other Flyer elements will find Flite Gear's approach refreshing. From your list of available elements, you simply highlight the desired item by its name and the picture icon instantly appears. Want to look at a clip but don't remember which of your Flyer drive's it's on? No problem—simply highlight it on the list and select Play Clip. It will instantly begin to play.

Here's another scenario: you need to use an overlay effect (such as the scratchy film effect) or some other key

which one to use for a particular title sequence, you need to preview some of them in the Toaster framebuffer. An ARexx macro included with the 4.0 software will do the job for you, but it takes several keystrokes and some extra navigating through folders and volumes to accomplish. With Flite Gear, you click on a couple of gadgets and, before you know it, the image appears directly on Toaster's program output. Or, if you like, Flite Gear can use an image processor to create a scaled version of the image that can be displayed independently of the Toaster. You can store the image in its own log file containing any number of other elements. This feature is especially useful for cataloging large amounts of images for quick reference.

Here's another scenario: you need to use an overlay effect (such as the scratchy film effect) or some other key



### Magic Thumbnails

One of Flite Gear's most impressive features is the ability to let its control of an image processor create a series of thumbnails (picture icons) roughly three times the size of NewTek's clip icons. These pictures are saved along with the log book and can be easily viewed and used for selected task execution throughout various portions of Flite Gear's separate modules. This feature is especially useful when you need an overview of an entire project for client approval or production meetings. The Flyer's own picture icons are designed to give maximum utility when displayed in an editor interface. They are much too small, however, for the purposes of examining picture detail. The larger thumbnail images created within Flite Gear are quite functional for close examination, and take up little disk space. A log file with approximately 80 images can be stored on a single 800K floppy disk.

Another factor to consider beyond

all the functions of Flite Gear itself is the author of the package and his background. Harold Russell has hands-on experience editing and producing video projects, which gives him insights into how to optimize control of the Flyer's features. Everything is organized in a way that reduces the time and effort needed for finding and assembling elements for preview and final assembly of your video project. Plans are in the works for finishing a "time line" interface that will allow insert edit capabilities that are more useful and intuitive than the current Flyer storyboard. At press time, Russell was also working on optional modules for such things as automated commercial insertion and satellite uplink capture, and special effects control over Flyer clip playback for true real-time slow motion using existing Flyer clips without post-processing in ToasterPaint. As impressive a package as Flight Gear is now, I get the impression that it will be one of

those products that will not only evolve with future Flyer development, but help to drive that development through its own innovation.

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VII

### Flite Gear

**Price:** \$229

**Product type:** Utilities package

**Minimum system:** Works with Flyer 4.03 or later and Flyer 4.0 standalone upgrade

**Recommended system:** 10MB of memory

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# Prepare for Takeoff

## Audio Editing Tricks for the Flyer

by Bob Anderson

**W**ith its eight tracks of CD-quality audio, the Flyer has plenty to offer the professional videographer. Many techniques that editors regularly use in a linear environment, however, don't exactly translate into the Flyer's non-linear interface. Let's take a few moments to examine several often-used audio techniques, and how to perform these edits on the Flyer.

### Split Edits

A common example of a split edit is when you have a shot of someone speaking and the camera cuts to another person who is listening to the first. The second person is often nodding in agreement or otherwise reacting to the speaker. While the second person is on screen, the audio from the first person continues. In most cases, the shot will eventually return to the speaker.

These types of edits are very simple with the Flyer. Place your clips in order in your project (the upper portion of the Project/Files View). Highlight the clip of the first person speaking by clicking once on the associated icon. Use the Fine Tune controls panel to complete these edits. You can default to opening this panel by turning on the Caps Lock key. From the Fine Tune panel, simply extend the audio outpoint past the video outpoint. This causes the clip's audio to play longer than the video. Set the outpoint to, let's say, 10 seconds after the video outpoint. Hit continue to close the controls panel, and keep the changes. Now click on the next clip with the second person. Open the controls for that clip, and set its duration to 10 seconds. You can also set this clip to not play audio, if you only want to hear the sound from the first clip.

If you play this combination, you will see the original shot, and then the new shot, each with the audio from the first. In order to return to the first clip, you must perform a Match Frame edit. (It's simpler than it sounds.) Click on the first clip and hit duplicate. Drag the new clip after the second one. Open the control panel for the first clip and click in the Audio Outpoint numeric window. Once the window is highlighted, hit (c), which will copy the timecode value into RAM. Tap continue to close the panel. Now open the control panel for the third clip. Click in the Video Inpoint numeric window until it is highlighted and hit (v). You've just pasted the saved timecode into this window. Move the inpoint ahead one color frame by clicking the right arrow over the Inpoint numeric window. (Clicking and holding this button will scroll you ahead in real-time. Be sure to

only click once briefly to move ahead one frame.) Set the Audio Inpoint to the same number. Now, when playing all three clips, you will have a perfectly matched split edit.

### Timing Up Foley Events

Many people who are used to timeline-based non-linear interfaces seem to have a problem figuring out how to place audio cues at a precise moment, such as a gunshot or door slam. Timing of these events is critical, and the Flyer's Storyboard makes performing them easy.

Let's take the example of the door slam. Place the video clip into the program and set its inpoint and outpoint as you normally would. Close the control panel to save the changes. Now, re-open the control panel. Click on and hold down the Inpoint arrow, and play the clip up to the point where you see the door slam. (If the clip is really long, you might choose to move the slider to a spot just before the event.) Make sure that you are exactly where you want the audio event to start. Copy the Inpoint value by clicking in the window and hitting (c). Now hit the cancel button at the bottom of the control panel. This resets your Inpoint and Outpoint to the ones originally set.

Next, place your audio clip after the video clip in your storyboard. Let's assume that it is a sound effect of a door slamming. Open its control panel. I usually move the Inpoint forward until I hear the audio start. This prevents timing problems that may arise if there is silence in the clip prior to the sound's onset. Click in the start time numeric requester and paste the timecode in the window (by pressing v). Now, when you play back the clip, the audio event will be matched perfectly with the video.

### Ramping Background Audio Up and Down

I recently discovered a trick that allows the Flyer to perform a function not apparent from the interface. Often people want to have background music start out loud, fade significantly (but not completely), and then fade back up. The Flyer has fade up and fade down controls, but they only allow you to fade up from, or down to, silence.

Here's the trick. You can place more than one audio clip in a row within the storyboard. (Remember that you must have at least one video clip in your storyboard. For this example, pick any sequence that is at least 30 seconds long.) If you want a piece of background music to play loudly for 10 seconds, fade to half-volume, and load two copies of the audio clip in the storyboard. Set the volume of the first to

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# Painting With Light

## The Digital Airbrush

by R. Shamms Mortier

**B**efore we look at what digital airbrushes do, let's take a brief look at what a real-world airbrush does. Essentially, an airbrush confines a steady stream of air, usually from a compressor, into a narrow channel. At the same time, a clipped-on receptacle feeds paint into the air stream. Through deft control of both the air stream and the positioning of the airbrush, artists can create washes of muted color that are "feathered" at the edges of the stroke. Everything from Vargas' flesh tones to metallic reflections is possible with the airbrush. Results can range from wispy, non-definitive clouds to the random spatters perceived in a lake of molten lava. Obviously, the digital airbrush tool has a high standard to uphold.

In the introductory article on paint programs in May 1995's *VTU*, I looked at a range of products that might be useful to the Toaster artist as either direct painting environments (ToasterPaint and Alpha Paint) or post-Toasty (sorry—I couldn't resist that) tools. These post-environment painting packages will no doubt be a category that will grow in our references as we examine various subjects in future painting tutorials. One reason we will look at a whole host of painting software besides that mentioned previously is the move of LightWave and even the Toaster itself to a Windows platform. More alternatives now exist as painting tools—alternatives the Toaster artist should become aware of. With the use of higher-quality emulators on the Amiga for both the Macintosh and Windows, even the die-hard Amiga artist is in need of expanded alternative education, and this will no doubt increase as time goes by. Since purchasing the Commodore technology, Escom is already talking about producing the next-generation Amiga, a PowerPC that might include built-in multi-platform hardware.

We will narrow our focus in this digital airbrushing overview to three Amiga-based packages (ToasterPaint, Alpha Paint and DeluxePaint V) and one non-Amiga package (Fractal Paint, which is both a Mac- and a PC-based product). Many owners of Utility Unlimited's EMPLANT system already use Fractal Paint to tweak the colorization of LightWave and TPaint files.

### Terminology and Targets

One term that all airbrush artists are quite familiar with is "frisket." A frisket (usually a paper or mylar overlay) is a protected area of a piece of artwork that remains unaffected by airbrushed paint. Digital artists are familiar with the "stencil," a digital frisket. Stenciled areas of a piece of digital art provide a user-defined degree of protection from whatever painting

processes affect the non-stenciled portions of the artwork. Stenciling use is as important as airbrushing, and we will keep this in mind.

We will touch on four different airbrushing goals: creating clouds, retouching a face, using the blur function (a pseudo-airbrush look), and experimenting with the difference between "smooth" and "spattered" airbrush techniques.

### ToasterPaint Retouching

The airbrush tool is new to TPaint 4.0, and it is one of the nicest features—perfect for retouching digital photographs. Digital retouching is actually much healthier than using a real-world airbrush. I used to work next to an airbrush artist years ago who often complained of respiratory problems due to the mist generated by his brush. There are two steps to retouching a photograph: "bleaching" and the airbrushing



Figure 1: Subtlety is the art of airbrushing. The face on the right shows Ingmar Bergman's slight mustache removed and lips reddened, and the greens in her clothing have been lightened.

that follows. Bleaching is the operation that allows you to remove an unwanted feature, and the follow-up airbrushing blends the new area in with the surrounding texture. The digital airbrush retoucher always works in zoom mode

for at least part of the process, since it's impossible to see all of the colorized pixels in standard views. TPaint sports awesome zooming capabilities, so this is never a problem.

Besides applying color, digital airbrushing can be used to spray lightening and several other options. In Figure 1 I zoomed in and reddened the lip color slightly, and bleached out unwanted facial features. A smoothing action blended the final results. It is important to keep contrasting colors in mind when doing color retouching. Lightening the green in the clothing accentuates the red in the lips and face.

### Alpha-Feathered Clouds

InnoVision's Alpha Paint has some of the nicest "feathering" routines that I've seen. A feathered image is one in which the edges of a graphic clip are obscured so that they seem to vignette into the background. That's just perfect for our second



task, the creation of a cloudy sky. The technique is simple. Just create a shape with the freeform painting tool. Now pick it up, go to the feathering requester, and experiment with various degrees of feathering before you paint it down. It's best to work on two screens to accomplish this. The thing to remember about creating cloudlike shapes is "layering."



Figure 2: Alpha Paint was used to create this digital painting, showing the software's excellent "feathering" modes.

By setting various degrees of feathering and transparency and layering each shape, you can create some very dreamlike landscapes and skies (Figure 2). Remember, it's the look of airbrushing that counts, and you can achieve it by means other than the actual airbrush tool. In Alpha Paint this look can be created with the "feathering" routines.

### DPaint V: Spatter and Smoothness

Electronic Arts has been known for its DPaint software for a long time. This latest release finally adds a standard digital airbrush, but not at the expense of omitting the "pixel spray" airbrush it has always had. This new feature is great news for digital animators and artists because it means DPaint has both options. We must remember that a digital airbrush artist can achieve many more options with the airbrush tool than a traditional airbrush artist can even dream of. Another way to use the airbrush tool in DPaint is to spray shapes onto the screen. These shapes can be either small graphic clips (brushes) or animated clips (ANIMbrushes). The airbrush and airbrushlike tools were used to create the image in Figure 3. The foliage in the foreground was created by spraying several kinds of small graphic clips in a layered series. Notice that each of these clips was first outlined in a dark color to pop it away from the others in the final work. The end result looks like a thick bramble of bushes.

The "stars" in the sky were created in much the same way. As for the "clouds,"

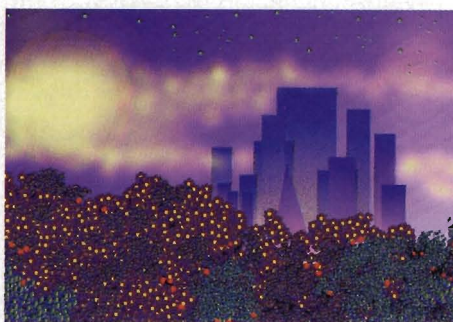


Figure 3: The latest version of DPaint offers both pixelated and standard airbrush modes.

that's where the standard airbrush comes in. The width was set to a very large area, and sprayed over the gradated sky color including some stars. The buildings look like they were airbrushed, too, especially at the bottom. Fooled you! That's not airbrushing at all, but merely a gradual tint that lightens at the bottom of the color range.

### Fractal Paint

If you get irritated at the mere mention of non-Amiga software, than stop reading right here. For those of you who work on additional platforms, however, and have an EMPLANT card in an Amiga, read on. As you may be aware, if you use either Mac or Windows platforms, Fractal Design Corporation's Fractal Paint (now in its 3.1 release) is one of the most well-

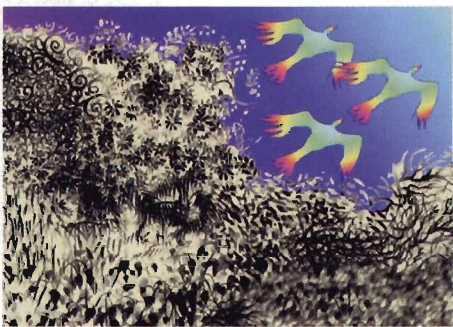


Figure 4: The foreground of this work owes a tip of the hat to Fractal Paint and the Image Hose airbrush tool.

respected painting packages around. It's not uncommon to port LightWave animation frames or TPaint art to Fractal Paint as a final step in the professional production process. Because of the Toaster's move to Windows, this will no doubt increase. And Fractal Paint has some great airbrush tools.

The airbrush in this software has five options: fat stroke, feather tip, single pixel, spatter and thin stroke. Each of these has a valuable use in the creation of digital artwork. An added feature in Fractal Paint is a tool called the Image

Hose, which has 14 separate spray options. The Image Hose is a creative extension of the airbrush. All kinds of shapes can be sprayed through it. Fractal Design Corporation markets libraries of natural shapes, for instance, that look awesome when sprayed to your digital canvass. In Figure 4, I have chosen several natural shapes, from twigs to branches to daisies and ivy, to coat the foreground of my canvass. I saved out the image as a BMP and translated it into a 24-bit IFF with ImageFX. Then I used Brilliance to colorize the Fractal Paint designs and added a background image of multicolored birds. This image was then imported into TPaint and used as a DV transition for video.

### A Little Foreshadowing

Next time we'll deal with the creation of fire and lightning. See you then, in ROMulan space. Enjoy!

VTU

### Companies mentioned:

NewTek Inc.  
(ToasterPaint—bundled with the Video Toaster)  
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InnoVision Technology  
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Fractal Design Corporation  
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100, and its outpoint to 10 seconds. Give it a fade-out time of two seconds. Now open the controls of the second copy of the clip, and set its volume to 50. When playing this second copy back, you'll hear the music start out loud, then ramp down to half-volume. I've used this technique often, and it works even if you have several video events happening in your project, are using effects, and are playing the audio from the video in your project.

If you want the music to get louder after a while, you can load a third copy of the event in the storyboard right after the first two. For example, if you want the music to get louder 20 seconds into the program, simply set the Inpoint and the Start Time to 20:00, the volume to 100, and a Fade In time of approximately two seconds. Now, 20 seconds into the show, the volume will swell from 50 to 100 over two seconds. This technique is a bit sloppier than the first, and will sometimes slide by a frame or two, depending on how many cuts and effects you have between the spot in the storyboard where the icon appears and where it actually starts ramping up. You can easily fix this problem by moving the Start Time for the event plus or minus one or two frames.

Most of you know that the Flyer is capable of playing back four stereo pairs of audio at a time. In this last technique, the audio inpoint was set somewhere in the future. This method doesn't tie up any audio playback channels until the Flyer actually starts playing the clip. You can still perform A/B-rolls, and have the background audio playing, without worrying about the Flyer allocating these extra channels.

With these techniques, I think you will find that the Flyer's storyboard interface is easier to use than a timeline. Because you get the visual feedback of the live video scrolling by in real-time, it is extremely easy to time up audio events to your video. All the functionality that you expect from a linear, A/B-roll editing setup, or from the most expensive non-linear systems, is available in the Flyer.

VTU

*Bob Anderson is NewTek's chief product evangelist.*

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FOR INFORMATION CIRCLE 124



# CG and TPaint Join Forces

## Chiseling Letters Into Marble

by Corey Damsker

**T**oasterPaint and CG are often overlooked when discussing the powerful Video Toaster. I developed this marble-chiseling technique with the hope of bringing the spotlight back on them. This tutorial should help bring your level of post-production up to a higher standard. Some of the concepts I'll discuss may seem simple at first glance, but, when combined with one or more other simple ideas, they take on a whole new realm of creativity. Follow closely and you should be able to run through this lesson in less than 30 minutes.

Applications for this tutorial may include—but are certainly not limited to—full-page graphics, which can be used in statistical work such as television sports scores and page headings for corporate graphics, bars or charts. How about using this technique to draw attention to a phone number in an industrial video or commercial? This treatment can also apply to lower-third title bars identifying a talking head. Let your imagination run wild.

Enough small talk. Let's get ready to rrrrrrrumble!

### ToasterPaint Composite

Enter TPaint. Hold down the right mouse button to reveal the pull-down menus, drag the cursor over the Picture menu, and Load-Frame. Now, load in your favorite framestore of marble. What—you don't have one? Well, go get some! Use someone's marble floor, Home Depot, tile place samples, your local church, or my personal favorite, my local catering hall men's room. (Black-and-white marble—nice!) Your tilage may vary. If all else fails, try wood, silver, gold or just a colored background. You might even try a texture library on CD-ROM (if you have the cash). See page 52 for more information.

Load in your marble framestore (Figure 1). Hit the (j) key to Jump to the swap screen and load in another framestore. Choose something simple, like a colored, textured or gradient background. I'll use a stucco textured and colored framestore I have lying around (Figure 2). Once loaded, select RubThru. Pick the filled rectangle tool and drag out a box anywhere you like, approximately two inches high and almost the width of the screen. If you wish, add a drop shadow and/or beveled edges (Figure 3). Save this new creation as a framestore. Exit and quit TPaint.

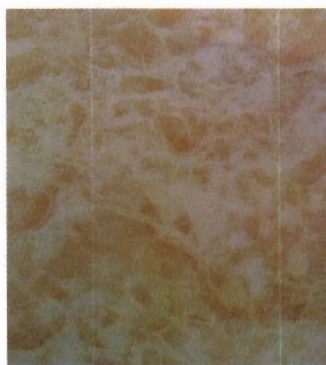


Figure 1



Figure 2

### Pulling It All Together With CG

Next, jump into the CG and find an empty page. Select a background page. (Not a scroll, not a crawl, not even a key page. The other one.) Go into the color palette menu and select background color (it looks like a paintbrush on a wall), select the box that says "Paint," and choose the box to its right that looks like a disk going to paper. This will bring up a requester for you to choose one of your many framestores. If it doesn't show your framestores, hit the parent button to try to access framestore files, or type in DH1:framestore next to the word "Path." Then hit return. I'm assuming your newly saved Marble framestore is on your hard drive #1. If not, enter in the correct DHX number, click return, and select your framestore by double-clicking the left mouse button.

Type in some text on a line. Now, select all words by holding down the shift key and double-clicking on any one of the letters.

Change font type to Muriel (100 pt.), Biorst (100 pt.) or Simple Smooth (54 pt.) by selecting the Font button (F with pages) at the upper left of the CG screen. Select the (+F) box and choose the appropriate

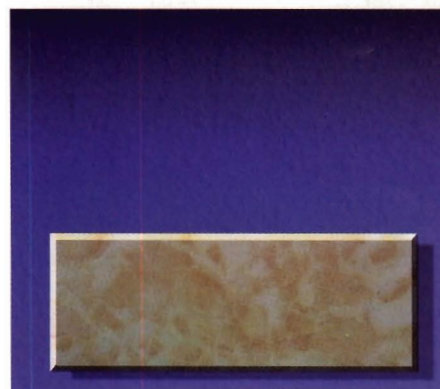
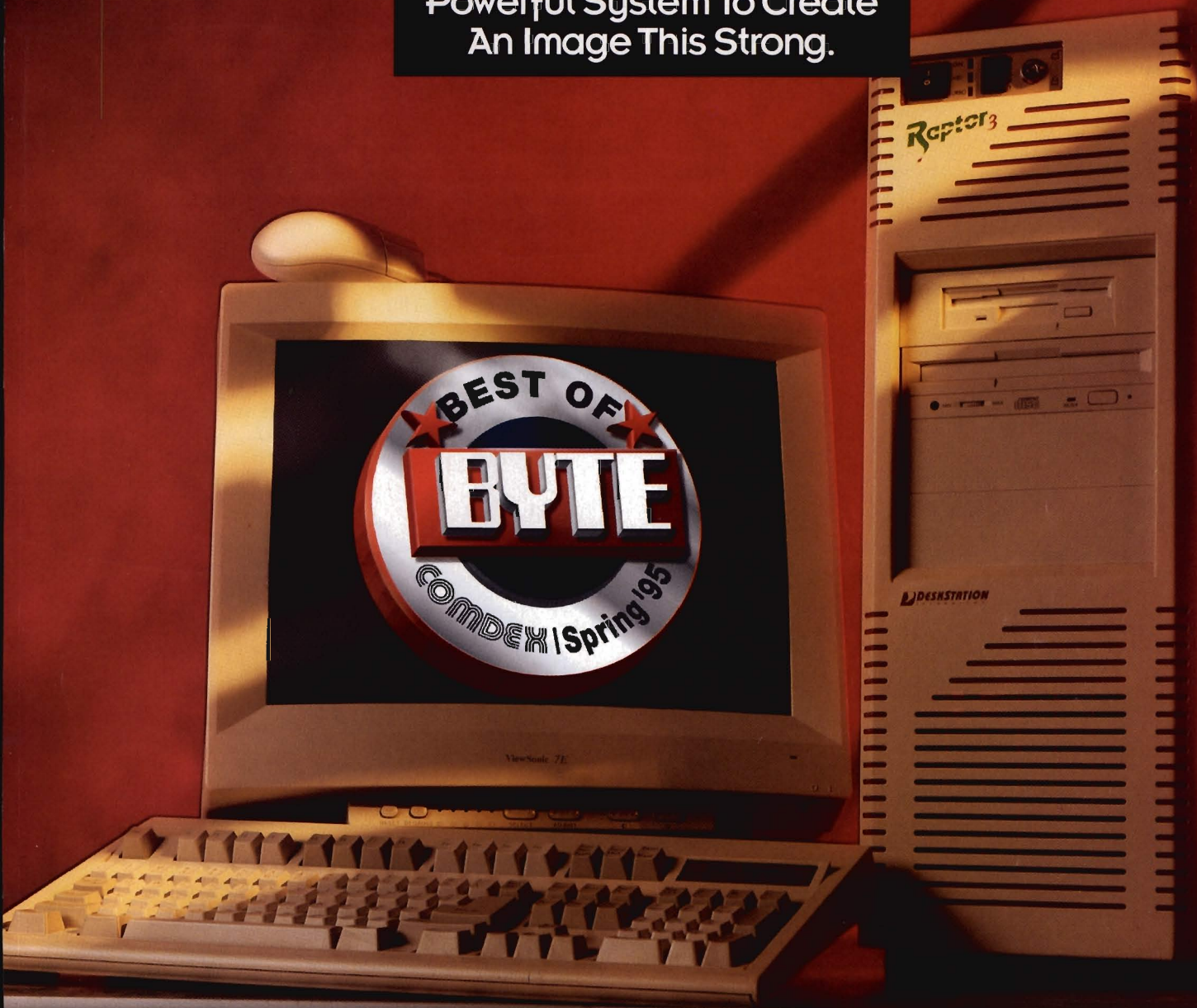


Figure 3



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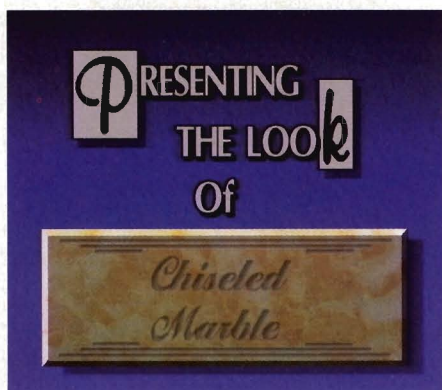


Figure 4

directory for the font desired by left-clicking on the Font Bank directory (they are alphabetized). Double-click on your font of choice, enter 100 for the height and hit OK. Go to the font pull-down menu and hold down the left mouse button. Scroll through the list and select your font. In order to better align your text with your marble box, go to the setup menu and click on "Preview" in the lower right corner of the screen, where it says "Control Panel." Return to the CG and

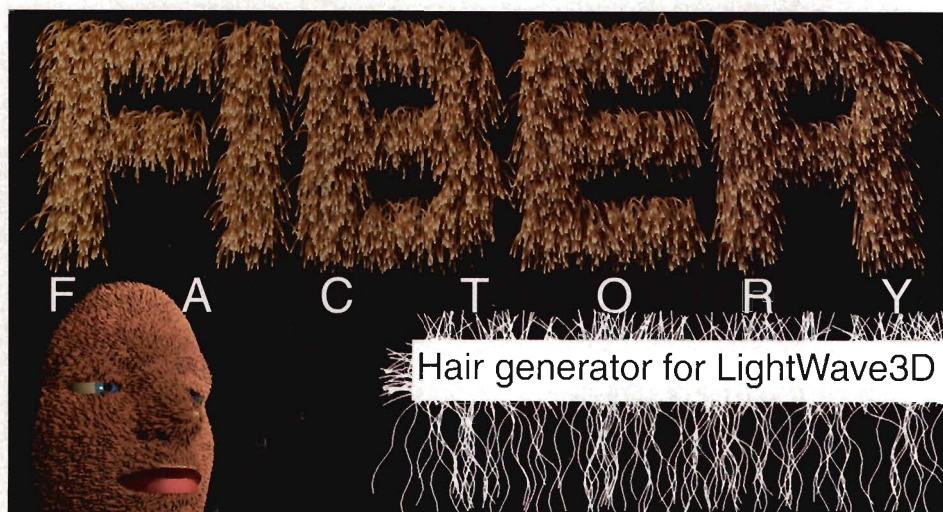
hit F9. Your preview monitor will now show an overlay of your CG preview with the background framestore, making alignment a piece of chocolate cake.

Turn off borders. Make drop shadow unattached and adjust shadow length to the second position (next one after shortest). Move light source to the lower right corner.

The secret to this technique is setting your color and alpha channels. Go back to color menu and select (t) for solid text face color (not Gradient). Set text color to (180,180,180) and Alpha to (112). Next select (s) for shadow color. Set color to (0,0,0), Alpha to (80). Select (b) for Border color and set color to (0,0,0), Alpha to (96). Hit Continue and F9, and let render. Hit F10. Voilà! It's that simple. Letters are chiseled into marble (Figure 4).

Enjoy!

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## Tips From an Artist

1. Try this effect with different fonts and backgrounds.
2. The lighter the better. Simpler backgrounds work best.
3. Don't use fat or thick fonts. These will ruin the effect.
4. Make letters pop out rather than press in by changing the light source to the upper left corner.
5. As with any cool new effect, try to use it sparingly, to give it more value.
6. Use the Box font to make "line grooves" in marble.

Corey Damsker is an award-winning freelance videographer from Long Island, N.Y., specializing in event work. His company, Videography by Corey, focuses on multi-camera corporate, industrial, and music video work. Damsker can be reached by writing to 230 Daly Rd., E. Northport, NY 11731.

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1200MB Low Profile IDE	10MS	379

## Seagate

ST3145A 120MB IDE LP	16MS	1 Yr	99
ST3290A 260MB IDE LP	16MS	3 Yr	179
ST3491A 420MB IDE LP	16MS	3 Yr	199
*ST32550M 2.1G Barracuda	8MS	5 Yr	1099
*ST13150N 4G Barracuda	8MS	5 Yr	1549
*ST410800N 9G Elite	11MS	5 Yr	2699

## \* Video Flyer Certified Drivers

## 2.5" IDE or SCSI HARD DRIVES

ST9051A 40MB Seagate	139
ST9077A 60MB Seagate	159
ST9190A 170MB Seagate	165
ST9300A 260MB Seagate	229
ST9385A 340MB Seagate	289
ST9550A 455MB Seagate	369
ST9655A 520MB Seagate	429

## AMIGA NETWORKING

Interworks ENLAN-DFS (Five node licence)	299
CBM A2065 Ethernet board	299
CEI 4066 ETHERNET PLUS	299
Three network interfaces for 2000,3000,4000	
- 10 BASE T, Thick AUI, Cheapernet (10BASE2)	
- Diagnostic LEDs & 1 Year Warranty	
- 10MB/SECOND & is SANA II compliant	



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ATI - Graphics Ultra Pro 2MB VLB/PCI/ISA	279
ATI - Graphics Ultra Pro 2MB EISA	349
ATI - Graphics Xpression 1MB VLB/PCI/ISA	159
ATI - Graphics Xpression 2MB VLB/PCI/ISA	215
ATI - WIN Turbo 2MB VRAM VLB/PCI/ISA	285
Graphics Pro Turbo 2MB VRAM VLB/PCI/ISA	389
Graphics Pro Turbo 1600 4MB VRAM VLB/PCI/ISA	579
Diamond - Speedstar Pro 1MB ISA	89
Diamond - Speedstar Pro SE VLB or PCI 1MB/2MB	109/169
Diamond - Speedstar 64 ISA 1MB/2MB	147/197
Diamond - Stealth 64 DRAM 1MB VLB/PCI w/ Corel 3	149
Diamond - Stealth 64 DRAM 2MB VLB/PCI w/ Corel 3	197
Diamond - Stealth 64 VRAM 2MB VLB/PCI w/ Corel 3	297
Diamond - Stealth 64 VRAM 4MB VLB/PCI w/ Corel 3	497
Diamond - Viper SE 2MB VLB/PCI w/ CorelDraw 3	299
Diamond - Viper Pro Video 2MB VLB/PCI w/ Corel 3	479
Diamond - Viper Pro Video 4MB VLB/PCI w/ Corel 3	599
Number Nine - #9GXE64 1MB VLB/PCI	189
Number Nine - #9GXE64 2MB VLB/PCI	274
Number Nine - #9GXE64 Pro 2MB VLB/PCI	369
Number Nine - Imagine 128 4MB 1280 PCI	879
Number Nine - Imagine 128 4MB 1600 PCI	1,135

## SOUND CARDS

Creative Labs - Sound Blaster 16 Value Edition	99
Creative Labs - Sound Blaster 16 MultiCD	144
Creative Labs - Sound Blaster 16 MultiCD + ASP	194
Creative Labs - Sound Blaster 16 SCSI-2	194
Creative Labs - Sound Blaster 16 SCSI-2 + ASP	197
Creative Labs - AWE 32 Sound Blaster System	279
Turtle Beach - Monte Carlo	92
Turtle Beach - MultiSound 16 Monterey	339
Turtle Beach - MultiSound Tahiti	269
Turtle Beach - Quad Studio includes MultiSound Tahiti	379
Turtle Beach - Rio MIDI Synthesizer Module	call
Turtle Beach - Tropez	219

## COMPUTER VIDEO HARDWARE

ATI - Video-It!	334
Cardinal - SNA Plus	649
Cardinal - SNA Plus-VL	549
Creative Labs - Video Blaster RT300	339
Diamond - VideoStar - Produce Digital Movies On Your PC	309
Diamond - VideoStar Pro - Advanced w/M-JPEG	479
DPS - Dual Rackmount Chassis ED-2200T	499
DPS - Personal Anim Recorder (PAR) DR-2100	call
DPS - Personal Protocol Converter PPC-2000	249
DPS - Personal Remote RC-2000	249
DPS - Personal TBC III VT-2500	669
DPS - Personal TBC IV VT-2600	799
DPS - Personal TBC IV Plus VT-2600WB	1,229
DPS - Personal V-Scope VM-2000	699
DPS - Video Routing Switcher RS-2800	279
FAST - Movie Machine Pro	499
FAST - M-JPEG Option for Movie Machine Pro	369
FAST - M-JPEG Option (w/ Adobe Premiere)	469
FAST - Movie Machine Pro (w/ M-JPEG and Premiere)	949
FAST - Video Machine lite	2,249
FAST - Video Machine lite with Multi I/O Pro	2,699
Intel - Smart Video Recorder Pro	CALL
miro - miroVIDEO 20TD live! PCI/VLB	489
miro - miroVIDEO D1	235
miro - miroVIDEO DCI	689
Play - Snappy - High Resolution Video Grabber	179
Sanyo - Edit-Pro GVR-S955 Editing Package	CALL
D/Vision Systems - CineWorks Kit	2,179

## VIDEO / AUDIO EDITING SOFTWARE

Adobe - Premiere 4.0	329
ATI - Mediamege	CALL
Gold Disk - Video Director 2.0 for Windows	129
D/Vision Systems - CineWorks - software only	899
Turtle Beach - Turtle Tools	59
Turtle Beach - Wave 2.0	79

## GRAPHICS SOFTWARE

Andover - PhotoMorph 2	89
Binary Graphics - AnyView Professional	99
Black Belt - WinImages' morph	69
Elastic Reality 1.0	295
Elastic Reality - TransJammer	115
Fauve Software - Matisse for Windows	98
Fractal Design - Painter 3.0 for Windows	329
Fractal Design - Dabbler 1.0 for Windows	64
Fractal Design - Sketcher 1.0 for Windows	54
HSC - Kai's Power Tools 2.0	119
HSC - KPT Convolver	99
HSC - Digital Morph 2.0 for Windows	95
HSC - Suite Imaging (w/KPT, InterActive & Digital Morph)	99
Inset - Hijaak Graphics Suite 3.0 for Windows (5-in-1)	99
Pixar - Typecity 1.1 for Windows (Incredible!)	169
Shereff Systems - Pro Video 24	169
Ulead Systems - Media Studio 1.0 for Windows	139
Ulead Systems - Morph Studio 1.0	39
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## 3D DESIGN & ANIMATION

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Crestline - Humanoid 3D Objects for 3D Studio	169
Crestline - Humanoid 3D Objects for Imagine	169
Crystal Graphics - Crystal Flying Fonts 2.0	139
Crystal Graphics - Crystal 3D Designer 2.1	329
Crystal Graphics - Crystal Topas 5.1	649
Diaquest - Animaq/V.M	899
Impulse - Diginax 3D Object Digitizer for PC/Amiga	695
Impulse - Imagine 3.0	349
Macromedia - MacroModel 1.5	679
Media Synergy - VR workshop	29
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Strata - Strata Vision PC 7.0 - 3D Render & Animate!	439
Strata - Strataclip 3D	CALL
Strata - Studio Pro PC	899
Syndesis - InterChange	CALL

## NOAHJI's VLab Motion

High quality non-linear video editing for the Amiga

Records video & audio directly to your hard disk in real time  
Plays video & animations from your hard drive in real time  
High quality - Selectable compression rates allow user selectable output from very low to BROADCAST quality without the high price & color degradation of decks.  
True field support for smooth motion: 60 fields/second in NTSC, 50 fields/second in pal  
Composite & Y/C video inputs & outputs. Optional transcoder for component in & out  
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Records video directly. No need for an additional costly TBC or dedicated hard drives  
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Works with standard off the shelf hard drives and SCSI controllers  
Up to 2.5 megs/minute throughput for high quality video  
Video standard YUV 4:2:2 square pixel recording, 640x480 NTSC (equals 752x480 Amiga pixels) full screen recording & playback.  
Custom high speed file system (JPEG-FS) with transparent access from AmigaDOS.  
JPEG frames automatically appear as IFF-ILBM pictures to other Amiga programs  
Supports the Toccata 16 bit audio digitizer for simultaneous CD+ quality audio  
Supports the Retina graphics cards for 8, 16 and 24 bit display of the MovieShop editing interface.  
Real time video scaling for picture in picture effects.  
Fast hardware compression and decompression of high quality JPEG stills  
Load & compress stills, anims, & image sequences from all Amiga animation software  
Supports PAL & NTSC video standards  
MovieShop editing software included

VLab Motion Card	1475
VLab Motion System (Includes Toccata)	1699
VLab Motion Complete (Toccata & Retina Z3 w/4MB)	2249
Toccata	395
Retina Z3 w/4MB	659
VLab Y/C Int/Ext	389/445

## VIDEO TOASTER SYSTEMS

CBM Amiga 4000 Motherboard, Case, Power Supply, slotboard, 1.76 Floppy Disk Drive, Mouse, Keyboard & 2MB Chip ram	3995
Processor Options -	
CBM A3630 68030 @ 25mhz w/mmu & fpu	299
CBM A3640 68040 @ 25mhz w/mmu & fpu	499
Macrosystems Warp Engine 4028 w/CPU & SCSI I & II Controller	999
Macrosystems Warp Engine 4033 w/CPU & SCSI I & II Controller	1099
Macrosystems Warp Engine 4040 w/CPU & SCSI I & II Controller	1299
Memory Options - (Minimum of 8MB Fast Memory needed)	
1x32 Simms 80ns 4MB	119+
2x32 Simms 80ns 8MB (must have warp engine or extra ramboard)	299+
4x32 Simms 80ns 16MB (must have warp engine or extra ramboard)	499+
8x32 Simms 80ns 32MB (must have warp engine or extra ramboard)	999+
Newtek Video Toaster 4.0	1995
Newtek Video Flyer	4275
- 2.1 GB Quantum Atlas Video Drive	999
- 4.3 GB Quantum Atlas Video Drive	1699
- 9.0 GB Seagate Elite Video Drive	2995

## Amiga 2000 Accelerators

GVP 68040 @ 33mhz w/MMU, FPU, SCSI Controller with Extra Serial, Parallel Ports & 4 MB Ram 60ns Expandable to 64MB ram using 16MB simms (799 each)

Only 1395.00

CSA 68040 @ 33mhz w/MMU, FPU & SCSI II controller card w/OMB. Uses 72 pin 60ns industry standard simms and is expandable to 64 mb using 16mb simm moduls.

Only 1395.00

GVP 68030 @ 40mhz w/FPU & SCSI Controller & 4MB ram at 60ns expandable to 16MB ram total.

Only 999.00

## REMOVABLE MEDIA SCSI DEVICE CLOSE OUT

Richo 50 MB Removable HD	199.00
Cartridges for Richo 50MB	59.00

## USRobotics Modems

Internal Sportster 14.4kbps v.32 bis data v.42, v.42bis, quicklink II s/w, fax \$109  
Internal Sportster 28.8kbps v.34 data, 14.4kbps class 1 & 2 fax v.42/v.42bis quicklink II s/w \$259

**AMIGA Lightwave 3.5 stand alone Version \$99.00 and you can upgrade for only + \$150**

## AMIGA RAM BOARDS

Paravision MBX1200Z w/20Mhz&1MB	159
Paravision MBX1200Z w/20Mhz&2MB	199
Paravision MBX1200Z w/20Mhz&4MB	299
Paravision MBX1200Z w/20Mhz&8MB	429
Paravision 8-Up! w/OMB	(2000) 99
Paravision 8-Up! w/2MB	(2000) 149
Paravision 8-Up! w/4MB	(2000) 229
Paravision 8-Up! w/6MB	(2000) 309
Paravision 8-Up! w/8MB	(2000) 389
DKB 2632 w/4MB	(Requires2630) 399
DKB 1202 FPU & 1MB Ram	(1200) 159
DKB 3128 w/4MB	(3000/4000) 395
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Supra External w/2MB (500)	(500) 199
CBM 2052 w/2MB	(2000) 99
CBM 2058 w/2MB Exp to 8MB	(2000) 175
CBM 501c Clone w/512K	(500) 49
Exp. Systems 601c w/1MB	(600) 69
DKB Megachip 2000/500 w/2MB Agnus	299
-accesses & adds 1MB of chip ram. The	
-must have for graphics & audio users	

## CSA 12 Gauge Accelerators

33Mhz w/MMU & SCSI Board	399
w/4MB 80-70NS Ram	549
33Mhz w/MMU & FPU & SCSI	499
w/4MB 80-70NS Ram	649
50Mhz w/MMU & SCSI Board	499
w/4MB 60NS Ram	675
50Mhz w/MMU & FPU & SCSI	599
w/4MB 60NS Ram	775

## Micro R&D

2000 Bigfoot Power Supply	159
1200/600/500 Bigfoot	89
Slingshot A500 (1A2000Slot)	39
Slingshot Pro A500	69
X-Calibur A4000 Ram Unit	649

## ICD

AdIDE 40MB HD System	
w/2.5" Drive (500/2000)	269
AdIDE 130MB HD System	
w/2.5" Drive (500/2000)	399
Flicker Free Video II	249
ADRAM540 w/4MB (A500)	275

## DKB

**Megachip** **CALL**  
Allows your A500 & A2000 series computers to have two megabytes of chip ram. A must have for people who use video, graphics and audio applications. Included is the Megachip daughterboard with 2MB Agnus chips with an extra one megabyte of ram. (Requires A500 to have A501 ram expander +49.95)

A1202 board (A1200 Only) 99.95

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

A3128 Ram board (A3000/4000 Only) 249

Allows 32 bit ram expansion to 146 megabytes of ram using 72pin industry standard simms. Four simm slots accept either 4, 8, 16, or 32 megabyte simms.

A2632 Ram board (A2630) 399 w/4mb

Allows 32 Bit ram expansion onboard of 112mb of ram using industry stanard 72pin simms. Has four sockets allowing use of 4, 8, 16, or 32 mb simms. Allows full burst mode support.

Kwikstart II (A1000) 54.95

A1000 owners can now add kickstart roms to their machines with this device! Supports two different revision roms & allows access to more system ram

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

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

Cobra 28 mhz & 40ec mhz 159/249

Accelerator for the A1200 computer system that allows you to speed your machine up to 600% faster. Includes capability to add 128MB of fast ram using industry standard 72 pin simms & battery backed clock-calendar. Optional FPU can be added. Optional SCSI I & II Controller can be added +\$99.00

Mongoose (A1200) 275.00

Accelerator for A1200 computer with 68030@50mhz Expandable to 128MB of fast ram using industry standard 72 pin simms. Increase in speed up to 800% & has battery backed clock-calendar. Optional FPU or SCSI I & II Controller can be added +\$99.00



# Enter the 1995 LightWave® Animation Contest

sponsored by Video Toaster User magazine and NewTek

## Win The Wavey!

Plus valuable prizes donated by Video Toaster User advertisers  
Awards will be presented at a ceremony to take place during SIGGRAPH August 8-10

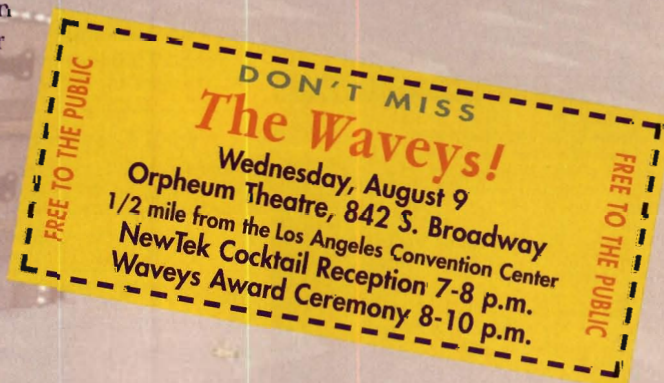
### Categories

1. **Logo Animations** – Show us your best logo animation from an actual commercial project or make up one of your own.
2. **Best Logo Still** – OK, so you and your client only had enough money for a still? No problem. Show us your best still logo shot.
3. **Best Compositing** – Using LightWave's powerful compositing features, create an animation mixing 3D graphics and video.
4. **Best Character Animation** – Enter your best examples of character animation to show off your skills in giving objects lifelike movement.
5. **Best Short Story** – Three things make a great film: Story, Character and Technique. Show us your best animated story.
6. **Funniest LightWave Animation** – Show us your most humorous use of LightWave 3D animation.
7. **Forensic and Legal Animations** – Send us your best accident re-creations and legal forensic animation.
8. **Best Use of LightWave in a TV Commercial** – Send us your LightWave 3D animation used in the promotion of a commercial product. It must have been broadcast on TV, cable satellite, etc. (Maximum length is 60 sec.)
9. **Best Youth Animation** – This award goes to the best overall animation submitted by an animator 16 years of age and under as of July 21, 1995.
10. **Best Organic Effects** – Send in your best fire, smoke, water, explosions or other organic effects in a LightWave 3D animation.
11. **Instructional/Educational** – Show us your best 3D animation for instructional or educational use.

Judges will select one winner from each of the above categories. Additionally, one "Best of Show" animation will be chosen from the eleven winners. Winners will receive the Wavey award and valuable prizes donated by Video Toaster User advertisers!

### The Rules

No purchase necessary. Avid Media Group and NewTek employees, relatives or representatives are not eligible to enter the contest. The primary animation program used for submitting animations must be LightWave 3D. All decisions of judges are final. Tape formats must be either Hi8, S-VHS or Betacam SP. Entries for each category must be on separate tapes and clearly marked. Tapes will not be returned unless accompanied by a postage-paid, self-addressed return package. All entrants agree that, by entering, they release their entry materials and will, upon request, provide a signed release in favor of Avid Media Group for all promotional and editorial use of these materials. **Entry deadline is July 21, 1995.** Entries must have been created after July 21, 1994. Send all entries to AMG, Attn: Waveys Contest, 273 N. Mathilda Ave., Sunnyvale, CA 94086.





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## NEW! Panasonic<sup>®</sup> AG-456 2-HOUR S-VHS CAMCORDER

- Now includes manual zoom control.
- 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 VTC (Vertical Interval Time Code) time code generator for frame accurate editing.
- Audio/Video fade-in/fade-out for smooth 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.
- Digital Strobe & Digital Wipe** - add professional effects to your shooting.



## AG-DP800 SUPERCAM<sup>®</sup> 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 18 at 2000 lux. Additionally the Frame Interline Transfer (FIT) CCDs minimize vertical smear, so you maintain impressive picture quality even in very bright illumination.
- Digital Signal Processing circuitry provides four valuable benefits:
  - 1) Consistently reliable up-to-spec performance.
  - 2) Fine adjustment of a wide range of parameters.
  - 3) Memory storage and instant recall of specific settings.
  - 4) More flexible and higher quality image processing, as well as easier maintenance.
- Some of the DSP circuits and their functions:
  - CHROMA DETAIL - This function compensates for poor resolution in the high chroma areas of the picture.
  - DARK DETAIL - Determines optimum degree of contour enhancement in dark areas to deliver crisp, natural-looking images.
  - HIGHLIGHT COMPRESSION - Expands the dynamic range of the highlighted areas and prevents halation. The highlight compression circuit allows a wide dynamic range producing detailed images even against bright backlight or daylight.
  - FLARE CORRECTION CIRCUIT - Compensates for unsteady black caused by light or by a subject's movements.
- Six Scene File Modes. There are two user modes for customized detail 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/VTC (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



**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**  
Utilizes a new 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 SNR.

**"NIGHT-EYE" MODE WITH DUAL PIXEL READOUT**  
In 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.

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 6000 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.

**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 affecting 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**  
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-RC700A 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-RC700, all of the camera's control functions are now in a hand held remote control box. Finally, the WV-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 sports 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" ITY 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-18) 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 ..... \$6495<sup>00</sup>

## JVC<sup>®</sup> 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 F8.0 at 2000 lux and LOLUX level 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.
- Record Record Mode - when turned on the camera is set to the auto iris even if lens is set at manual. Also activated is (ALC) Automatic Level Control and EEI Extended Electronic Iris which provides both variable gain and variable shutter. Now you can shoot continuously from dark room to bright outdoors without having to adjust gain, iris or ND filter.
- Full Time Auto White circuit lets you move from incandescent to outdoor lighting without changing white balance or the filter wheel.
- 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 1/2" 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-18 battery.
- Body made of magnesium alloy previously found only on broadcast cameras. Still only 13 lbs. in standard configuration.

TSC-100G with Canon 13:1 Servo Zoom Lens & Case ..... \$4995<sup>00</sup>

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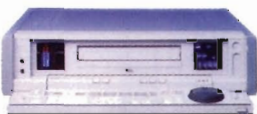
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## SANYO

### 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 reprogrammable 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 existing 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 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-H50U 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 rewound. 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.

#### 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 edit data in either the TC or CTL mode. The switch 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 DCC, 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 up to 32x, and a tiltable control panel.



- Built-in digital Dropout Compensator (DCC) performs dropout compensation for the luminance signal on a 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 overlaid 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 packages 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, TAD, and Matrox.
- The function continuously replays a tape which can be used 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 60 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 cueing 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 (1/4, 1/8, 1/16, 1/32, 1/64, 1/128, 1/256, 1/512, 1/1024, 1/2048).
- 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 Circuits eliminates color blurring and expands chroma bandwidth. Other digital processing circuits include: - Dig. Noise Reduct. (DNR). Processes Y and 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 slow-motion 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.
- 10 Intelligent Quiet 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 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 a 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 1-1x 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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## NEW! SONY SVO-2000 S-VHS Hi-Fi Editing VCR

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

### Superb Video and Audio Performance

- S-VHS format delivers 400 lines of horizontal resolution and consistent, clear image reproduction for superior results.
- Adaptive Picture Control (APC) System for optimum picture performance. In record mode, APC automatically tests an inserted tape and checks the condition of the heads. It then adjusts the VCR recording circuitry to capture images that are as clear and crisp as they can be. In playback mode, APC automatically sets ideal balance of picture sharpness and clarity.
- Hi-Fi stereo recording system has a wide frequency response of 20Hz to 20kHz and a superb 90dB dynamic range, and individual recording level controls for the left and right channels.

### Editing Features:

- The SVO-2000 has a Control-Edit Spin remote terminal that allows it to be controlled externally. Connects directly to RM-250 for easy setup.
- With Control-S input and output terminals, two SVO-2000s can be connected for synchro editing, without the RM-250.
- Also offers program editing capability, which allows automatic sequential editing of up to 20 pre-assigned scenes.



### Convenient Functions

- Both the SVO-2000 and the supplied remote control have a dual mode shuttle dial for slow motion playback, frame advance and picture search in either forward or reverse.
- Automatic repeat enables it to repeatedly playback a program. At the end of the program or the tape, the VCR automatically rewinds and restarts the program from the beginning.
- Auto head cleaner prevents head clogging which could lead to deterioration of picture quality.
- Has an on-screen set-up menu for easy set-up of tuner, clock and timer programming as well as VCR and cable box control.

## 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 DDC 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.
- 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.



### FOUR CHANNEL AUDIO SYSTEM

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.

### MULTIPLE INPUTS AND OUTPUTS

Both machines employ composite and S-Video connectors. With optional SVR-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 LVR-60 TBC Remote Control.
- 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 to 10x normal speed in forward or reverse.

## FXE-100 ALL-IN-ONE VIDEO EDITING SYSTEM

The new FXE-100 is an A/B roll editing system designed for quicker, easier video editing, and is well-suited for today's professional audio/visual communications. It is at once an edit controller which controls basic VCR functions, a special effects generator which cuts, mixes, wipes and composites the video sources with stunning effects; and an audio mixer with various fading and switching abilities. There is no longer a need to configure multiple devices for video editing. With either Hi-8 or S-VHS VCRs and the FXE-100, an ideal professional editing system can be easily configured.



- Switchable machine control of three RS-422 equipped VCRs or three RS-232 equipped VCRs. Basic VCR functions, such as play, stop, still, fast forward, rewind and record are controlled through these interfaces. Variable speed control is also possible for VCRs equipped with Dynamic Tracking.
- Accepts time code, control track (CTL), and 8mm time code as editing references. These can be set separately for each VCR.
- Performs assemble and insert editing (Video, Audio 1, Audio 2). The first EDIT mode, which allows you to record sufficient timecode for synchronization to a new tape is also featured.
- Features a split audio edit function which allows setting of audio and video in-points separately. This permits you to bring in the audio source before a visual transition.
- Store up to 99 scenes, including effects settings, in memory.
- Edit list data can be saved and downloaded to an IBM-compatible PC, allowing you to review or modify edit data at any time.
- The FXE-100 has two program buses, the A- and B-bus. Each bus provides Player 1, Player 2, AUX inputs and Background Color. Both composite and S-Video signals can be input.
- With the freeze function, two machine editing with effect transitions is realized by freezing the recorder OUT point picture.

### SWITCHER AND SPECIAL EFFECTS GENERATOR

- Multiple wipe patterns, including picture scroll and slides, are programmed in. Soft edges or a choice of 15 color borders can be added to most wipes and effects.
- Variety of mix effects, such as mosaic mix, black and white mix, posterization mix and picture-in-picture (PIP).
- Special effects can be set separately to video sources of each bus, allowing wipes or dissolves of the sources with the digital effects to be executed. Can also combine multiple effects.
- Digital effects, such as mosaic, paint, pixel trail, multi-picture, monochrome, and zoom. Picture freeze function is also featured in frame or field mode.

- **Adjustable Transitions** - transitions are done using the fade lever, or they can be automatically set.
- **Chroma Keyer** - The FXE-100 features chroma and luminance keys to superimpose characters, figures, or video sources onto a background.
- **Wipe Control** - By moving the location stick, you can move closed wipe patterns around the screen.

### AUDIO MIXING

Audio-follow-video editing can be performed with the FXE-100. Two channels are assigned to each player VCR's input and one channel for the recorder VCR's input. Two channels of AUX inputs and a MIC input are available for mixing background music with voice-over. All audio input levels can be adjusted separately. Two Program output channels and one monitor channel are provided. A switch for -7.5dB and +4.0 dB is provided for flexibility in choosing input levels for VCRs with either RCA or XLR connectors.

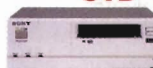
### USER FRIENDLY OPERATION

- All keys and buttons are logically grouped by function, and are color coded for quick identification and economy of keystrokes.
- Permits one monitor operation. No need for multiple monitors. Various editing data, such as edit mode and time code address of each VCR, can be monitored on the same screen.

### VERSATILE SYSTEM INTEGRATION

- No need to configure multiple devices. By simply connecting three VCRs, a professional video editing system is formed.
- Two frame synchronizers allow perfectly synchronized wipes and dissolves without time base correctors.
- Equipped with two GPIs for control of external devices, such as character generators and audio mixers. Also has a GPI input, allowing it to be controlled from an external edit controller.
- Has four black burst outputs to distribute internally generated sync signal, synchronizing connected devices. There is no need for an external sync generator.

## 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 menu of machine commands. 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-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. 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.

## 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 outpoint 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 an 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 editing 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 stripping 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.

## 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.
- With built-in 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  $\pm 0$  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 dedicated location, 8mm time code insertion or overwriting 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 Jo/Shot/Slide 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 RMH-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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## INNOVATION

### Alpha Paint The New Paint Standard for the Video Toaster

Alpha Paint elevates painting quality and performance on the Toaster to unprecedented new heights with 36-bits of painting power! It breaks new ground with Full-Screen Realtime 24-bit Painting and exclusive 12-bit Alpha Channel support for Anti-Aliasing, Blending and Compositing.



- Realtime free-form painting in 16.8 million colors directly on the Toaster's full-color program output.
- Full-screen WYSIWYG operation with multiple Undo/Redo - no more waiting, redoing or HAM artifacts.
- Complete utilization of the Toaster's Hardware Video Mixing Alpha Channel for unique Soft Edge Feathering and Transparency Effects played back over any Live Video source.
- Advanced set of Image Enhancement, Painting and Drawing tools such as Sharpening and Contrast Filters, Oil Painting, Airbrushing, Image Resizing & Unlimited Compositing.
- Automatic Edging Effects, 3-D Perspective Rotation and more.
- Sophisticated Text Tool with full support for Toaster, Chroma and Postscript fonts including XYZ Text Rotation, Postscript Circular Text Wrap, Texture Mapping, Glow and Neon Effects.
- Pressure Sensitive Drawing Tablet supported.
- Compatible with Video Toaster 2.0, 3.0, 3.1 and Toaster 4000.

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 necessary 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, time-shifters, 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 consumer VCRs. Various VCRs using Panasonic's S-pin or Sony Control-L editing protocol can be used.
- Optional VTR Driver kits provide compatibility with VCRs using VHS-C, RS-222 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.

### TheKitchenSync 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. Front panel has a maximum useful dynamic range. Each control buttons select different operational modes.
- Optional pixel by pixel DRC (Drop-out compensator)

#### AP41-SF

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

#### AP41-SP

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

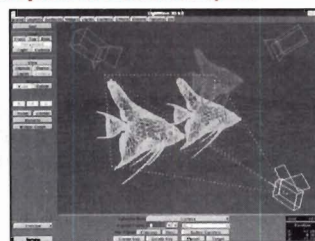
## NEWTEK

## LIGHTWAVE 3D

### The Ultimate 3D Rendering and Animation System for Broadcast Graphics

LightWave 3D is an all-in-one photo-realistic animation system. As part of the Emmy-award winning Video Toaster, LightWave 3D has been used in television shows such as SeaQuest DSV, Babylon 5, Hercules and Star Trek: The Next Generation and Voyager. LightWave is also used by tens of thousands of people to create graphics for corporate videos, commercials, video games, print graphics and much more. LightWave 3D provides a comfortable, intuitive working environment that draws a real-world metaphor between an actual soundstage and your personal computer. Within LightWave Layout, create dramatic lighting effects, photo-realistic surface materials and intricate camera movements. Render still images or entire animations in 24-bit color. Create new props with the powerful tools in LightWave Modeler. From technical geometric forms to free-flowing organic shapes this model shop does it all. LightWave 3D's new plug-in architecture is supported by a growing number of independent developers. This allows you to customize LightWave with additional features such as gravity, particle systems, image processors, and more surfaces.

- Inverse Kinematics allows creation of complex character animation more quickly. It makes animating more like puppeteering.
- Incredibly powerful modeler with new Metaform function that will transform rough geometry into organic looking objects.
- Reads (and writes) JPEG, IFF, SGI, TIFF, BMP, FLIC, CINEON, and many more image formats through Elastic Reality's Host Independent Image Protocol.
- Robust plug-in architecture gives other developers control over LightWave 3D to add additional features, such as gravity,



- image processing, or new modeling tools.
- Full Ray Tracing rendering including shadows, reflection, and refractions for ultra realistic imagery.
- Nearly all attributes of your scene can be animated through an easy-to-use key frame interface, or with envelope controls. You can animate lights, lens flares, textures, objects, even camera attributes such as zoom or depth of field.
- LightWave 3D includes a CD-ROM package with license free objects, images, textures, and scene files created by the pros from SeaQuest DSV, Babylon 5, and many other tele-

### VIDEO TOASTER



### TAPELESS EDITOR

The next big leap forward in video production technology, a non-linear editing system for everyone. Not only is the Flyer the easiest-to-use non-linear editor, but it also has the same capabilities and quality you expect from a production suite with \$50,000 video tape decks. Not JPEG. Not MPEG. The Flyer utilizes a breakthrough technology called VTASC, which was designed from the ground up to put broadcast quality video onto a hard drive. The Flyer is a powerful tapeless editing system. Record video and audio segments as clips, which you arrange using a simple drag and drop interface. Using the Video Toaster System 4.0 software add real-time video effects, graphics or text. Press the play button and your video plays back, real-time in broadcast quality. You can even use the Flyer as an animation recorder with LightWave 3D.

Of course great video requires great audio. A powerful DSP chip provides up to eight tracks of 16-bit, CD quality audio for music, sound effects and voice overs. Editing with the Video Toaster Flyer gives you the power to experiment. Initial cuts come together quicker and changes happen in the blink of an eye. Now, the power to create unbelievable video is yours.

Your Flyer card is the heart of the new Toaster. With your Flyer installed in the Video Toaster Bay, it becomes the new Video Toaster system. Now you have a portable field recorder. Plug your camera into the Toaster and record direct to hard drive.

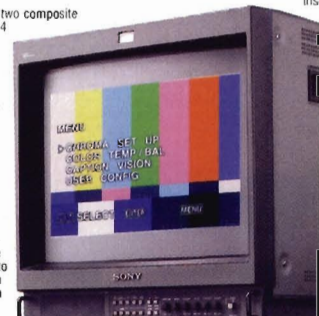
Your new Toaster system also has built-in time base correction with proc amp controls, three digital still stores, a four input production switcher, video processor, luminance key, SMPTE time code reader/generator and a single frame animation recorder. The Flyer installed in the Toaster Bay gives you the added flexibility of running it with your Amiga/Toaster system or any PC running Windows 95 or Windows NT giving you the freedom to use your Flyer anywhere.

## SONY COLOR MONITORS

### PVM-1350

#### 13" Presentation Monitor

- Employs a P-22 phosphor line pitch CRT to deliver stunning horizontal resolution of 450 horizontal lines.
- 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 multiformat 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/B-Y), analog RGB, S-video, 2 composite video (BNC), 2 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.

## MICROPOLIS AV SERIES DISK DRIVES

- Specifically designed for enhanced digital video and audio performance in applications such as multimedia, digital video editing and video servers.
- Using Advanced Thermal Calibration (ATC) technology, the AV series provides a continuous data stream. You get none of the data stream gaps that occur when ordinary drives are engaged in internal housekeeping tasks.
- They provide minimum sustained data rate of 3.0 MB/s and a maximum uninterrupted data rate of 2.9 MB/s, ensuring smooth and continuous data flow for A/V reproduction.
- Worst case data access of 30 ms makes sure there are no more frozen frames or audio drop outs.
- Multi-segmented, Head-Ahead Caching (internal memory) improves read performance by eliminating extra seeks.
- They provide the super capacity required for serious audio/video applications.



Model 4221AV 3.5 in. 2.0 GB Drive  
Model 1936AV 5.25 in 3.0 GB Drive  
Model 3243AV 5.25 in 4.2 GB Drive  
Model 1991AV 5.25 in 9.1 GB Drive

## 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 retoscoping 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, Fractal Pro, Imagine, Vista Pro, and Cinemorph.
- Real-time video capture for roto-scoping and other video capture applications is possible when used in combination with a DPS TBC IV card.



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## 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.
- 0db 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 TO 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 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 (200V) 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

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  $\pm 2.5$  dB ..... **294.95**

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  $\pm 2.5$  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  $\pm 2.5$  dB ..... **119.95**

ME62 with K6 Powering Module ..... **309.95**

## WACKIE



### Micro Series 1202 12-Channel Ultra-Compact Mic/Line Mixer

Usually the performance and durability of smaller mixers drops in direct proportion to their price. Fortunately, Wackie's fanatical approach to pro sound engineering has resulted in the Micro Series 1202, an affordable small mixer with studio specifications and rugged construction. The 1202 is a no-compromise, professional quality ultra-compact mixer designed for professional duty in broadcast studios, permanent PA applications and editing suites where nothing must ever go wrong.

### CR-1604

### 16-Channel Mic-Line Mixer

The hands-down choice for major touring groups and studio session players, as well as for broadcast, sound contracting and recording studio users, the Wackie CR-1604 is the industry standard for compact 16-channel mixers. The CR-1604 offers features, specs, and day-in/day-out reliability that rival far larger boards. It features 24 usable line inputs with special headroom/ultra-low noise Unitygain circuitry, seven AUX sends, 3-band equalization, constant power pan controls, 10-segment LED output metering, discrete front end phantom-powered mic inputs and much more.



## SONY

### TCD-D7

### DAT Walkman Player/Recorder



- High-quality Standard Play (SP) mode provides up to two hours recording of 16-bit digital audio on a DT-120 DAT cassette. The SP mode is ideal for recording live music.
- Long Play (LP) mode allows up to 4 hours of record/playback of 12-bit audio on a single DAT cassette. The LP mode is ideal for meetings, conferences or other voice recordings.
- Equipped with digital coaxial and optical input connector. Maintains the highest signal purity for recording and playback of digital sources with all information retained in the digital domain.
- Also has analog Mic and Line inputs for recording from analog sources without external adapters.
- High-speed Automatic Music Sensor (AMS) search function finds and plays tracks, skips forward or back up to 99 tracks, all at 100x normal speed.
- Has a Digital Volume Limiter System (DVLS) that increases listening comfort and sound quality by automatically adjusting for sudden level changes of the recording. It also helps prevent sound leaks through headphones.
- Two-speed cue-review lets you hear sound while player is in fast-wind modes, up to 3x or 25x normal speed.
- Compact and portable, it has an anti-shock mechanism that permits accurate recording and playback even while in motion.
- LCD display with backlit windows clearly shows recording level, track number, operating status and 4-segment battery indicator, even in low ambient light conditions.
- Optional RM-D3K System Adapter Kit for complete digital interface. The kit is equipped with the input/output connectors for both the optical cable and the coaxial cable. Therefore you can use it as a relay between the TCD-D7 and other digital equipment. Also includes a wireless remote control.

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



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



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<b>PM Series Premier Grade Professional VHS</b>					
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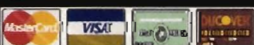
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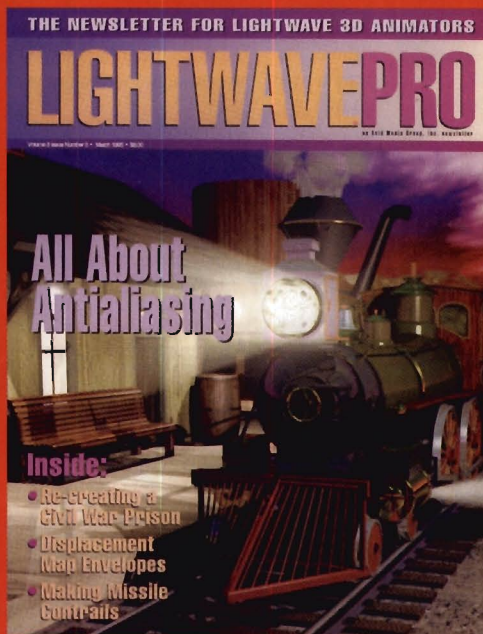
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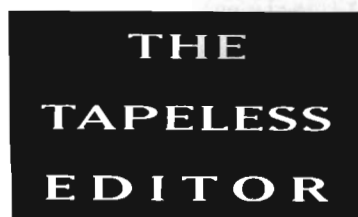
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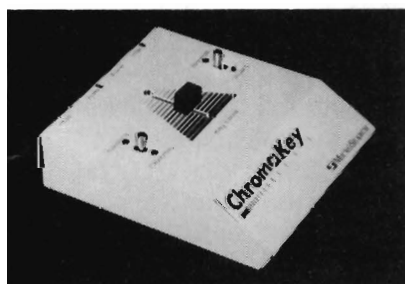
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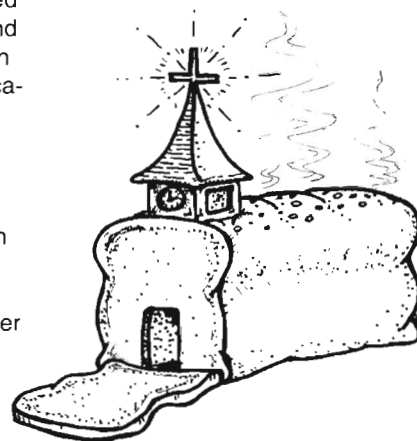
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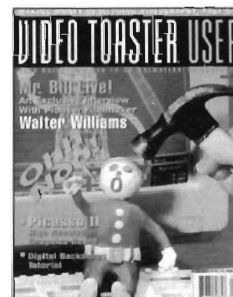
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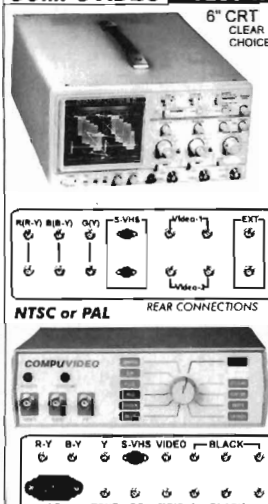
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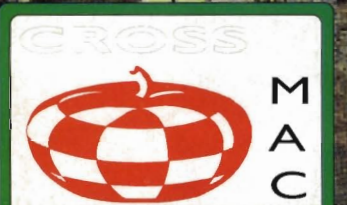
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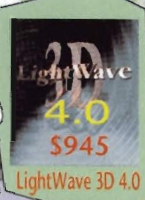
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**Base FLYer System \$19,995**

A4000/25MHzLC040/18MB Ram/800MB IDE HD/  
FLYer/Toaster/TBC IV/  
AntiGravity 9Bay Hanger w/ Octopus Cable  
Two 2GB Flyer HD's and 2X CDRom

**Base TO Tower System \$21,995**

ToasterOvenGT-4000 Tower System/  
40MHz040Warp/18MB Ram/1GB SCSI  
FLYer/Toaster/TBC IV/  
Two 4GB Flyer HD's and 2X CDRom/ASIM

**TO-GT Tower System \$28,495**

ToasterOvenGT-4000 Tower System/  
40MHz040Warp/32MB Ram/  
2GB 7200 RPM SCSI-2 HD/  
FLYer/Toaster/TBC IV/  
Two 9GB Flyer HD's and a 1GB AudioHD/  
4X CDRom/ASIM

\*Ribbon Lease Box is average credit lease for 60 months

## ANTI GRAVITY HANGER™

Anti Gravity Hangers are external expansion cases for the FLYer!  
They Feature High Voltage Power Supplies, Cooling Fans,  
Individual SCSI-ID Selects, FLYer SCSI-2 Ports, plus...

Hanger Model	# BAYS	# Waits	# Fans	# IDs	# FLYer Ports	Pass Through	Total Price
AGH-4	4	200	3	4	2	No	\$275
AGH-7	7	250	3	7	3	Yes	\$395
AGH-9	9	300	3	9	3	Yes	\$475

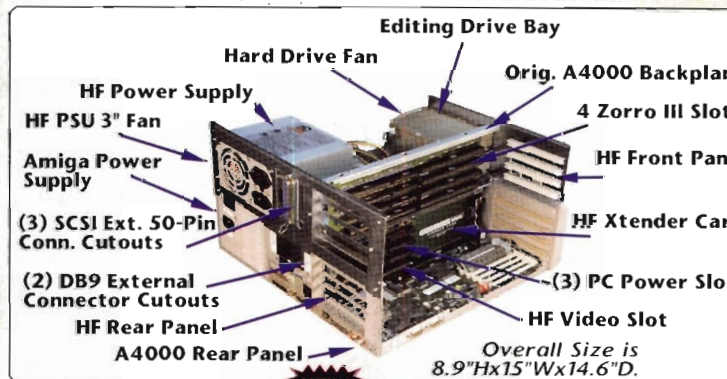
## HIGHFLYER EXPANSION SYSTEMS

**Integrated Expansion Chassis for the Amiga 4000**

The **HIGHFLYER** was designed for the Toaster 4000 user that would like to make use of all four Zorro III and two powered PC slots with the Toaster installed. The **HIGHFLYER** is also especially useful when used with the Flyer Editing System from Newtekk. In addition to the extra slots it also provides an extra venting fan, room for the Video A and B 3.5 X 1.7 inch editing drives, three 50 Pin Cent.-two DB9 cutouts and an additional 250W power supply. Optional cable kit allows connection of external 9 Gig Drives without removing the cover. The **HIGHFLYER** installs in just minutes using just a screwdriver and maintains the same footprint. All metal double high cover is painted same color as the original.



Features:  
Four Zorro III Slots-with Toaster  
Three PC Power Slots  
More 3.5" Drive Bays  
Additional 250 Watts of Power  
3 External 50 Pin SCSI Ports  
2 External DB9 Ports  
All Metal Double High Cover  
Increased cooling capacity



**HighFlyer \$395**  
**HighFlyer PS\* \$495**  
**Cable Kit \$85**  
**Fan Kit \$45**  
(w/Pwr Supply)

**NOW AVAILABLE SPECIAL**  
IDE A4000  
270Mb SyQuest  
\$ Call

**SCSI CONTROLLERS**  
DataFlyer 4000SX \$90  
DataFlyer 4000SX-25 \$100  
DataFlyer SCSI+ 4000\* \$120  
Does not use Zorro Slot



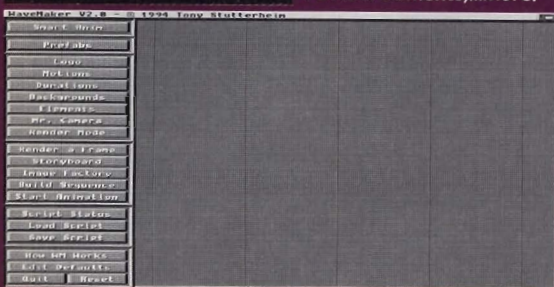
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is a flying-logo animation scene builder for LightWave.

## WaveMaker 2.0

You don't have to be a Lightwave expert to create eye-catching, professional-quality flying logo animations.

**New Features:**  
Image Factory,  
PAR Convert,  
72 New Elements,...More!



### Imagemaster R/t



### HUMANOID

human animation designer

**Hierarchical Models with Morphing Features**

Formats:  
Lightwave  
3D Studio  
Imagine

**\$170**

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**SNAP MAPS:** Fields & Foliage  
Whereas other texture libraries help you enhance objects you created, Snap Maps help you create objects.

Fields & Foliage \$129.95  
Building Materials & Fabrics \$129.95  
Super Bundle: F&F plus BM&F \$240

### Snap Maps: Building Materials & Fabrics



## Visual Inspirations

### BATCH FACTORY \$45



### ROAD SIGNS \$45



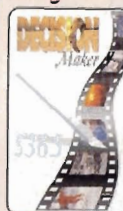
### SURFACE PRO



### DIGITAL SOUND TRACK



### New Flyer & V-Lab Motion EDL generator and VTR controller



**Decision Maker** takes the drudgery out of moving selected chunks of video to the harddisk. You control your video deck directly from your Amiga! And when you find useable footage simply add it to the EDL. When you need to switch tapes, just name the new tape and continue. When you are done, click **DIGITIZE** and the desired footage will move to the harddisk. Then when the Edit is done you can take the EDL to an **ON-LINE SUITE** or **REDIGITIZE** at a higher resolution!

- Features:**
- ◆ Import, Create, Export EDL's (CMX & GrassValley)
  - ◆ Online Editing
  - ◆ Control over your deck from your computer
  - ◆ Keeps track of multiple source tapes
  - ◆ Digitize and Redigitize
  - ◆ User-Configurable Screen Backgrounds
  - ◆ Ease of Operation
  - ◆ Time Lapse Record
  - ◆ Requires NewTek Flyer or VLab Motion
  - ◆ Compatible with V-LAN, Amilink, & BCD single-frames, & the EVO-9650 and Sanyo GVR5-950, Single Frame VCRs.

Surface Pro, Road Signs, & Batch Factory 2.0

**SUPER BUNDLES**

Visual FX & Decision Maker

### VISUAL FX \$125



You don't have to go all the way to Hollywood anymore to get first rate fx.

Volume one by Leo Martin and volume two by Mark Thompson are State-Of-The-Art Fx. The impressive front end of **Visual FX** gets you into production now, no previous Lightwave experience needed. The transition volumes are perfect for use with the NewTek Video Flyer or the DPS Personal Animation Recorder, just select what images or video sequences you want to use and **Visual FX** will do the rest. The Logo volumes are just as easy. Simply select what object you wish to replace our default and you are off on your way to creating professional quality animations that you never thought possible. **Visual FX** requesters actually open up on the LightWave screen and walk you through each step. **Visual FX** is perfect for batch processing. Each volume comes with 20 effects, each of which has a full 30 frame preview animation attached to it so you will know exactly what the effect will look like. **Visual FX** works with both the Video Toaster and stand alone version of LightWave.

## Replica Technology

**-Super Bundle-**  
All 5 sets  
ONLY  
**\$295**

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Create rooms and interiors with over 100 Objects: doors, windows, stairs, fixtures, moldings, walls, floors, ceilings and rooms.



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Four complete, scaled homes for Lightwave. Exteriors, Interior rooms. Doors and windows animated. Over 120 surfaces per home.



### Interior Design 1: \$45

Over 50 Real-World Scaled Furniture Objects:  
beds, tables, chairs, cabinets, and more.  
Doors and drawers can be animated!



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Over 50 Kitchen and Bathroom Objects:  
Lighting Objects, appliances, cabinetry, sinks, vanities, bathtubs, toilets and toiletry, and more.  
Doors and drawers can be animated!



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Over 50 Real-World Scaled Office Objects:  
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3D Virtual City with  
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CITYBUILDER contains over 75 detailed 3D objects featuring high and low Resolution versions of recognizable buildings from major U.S. cities.

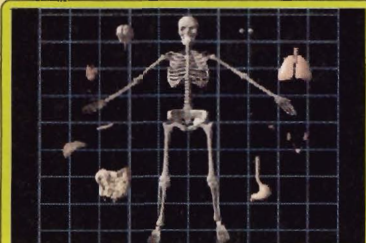
Objects are available in Lightwave3D, Imagine, DXF, and Wavefront formats.



**SUPER BUNDLE ALL 5SETS \$455**



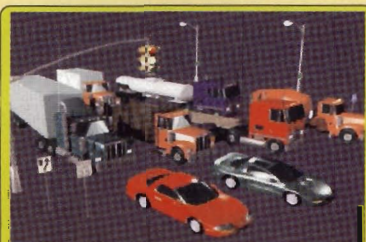
Household Items (50 objects) \$75



Medical/Anatomy (25 objects) \$135



Space Essentials (50 objects) \$95



Autos/Vehicles (65 objects) \$95



# LAST WORD

## Return of the Pen

Life in a Virtual World



by Mojo



One of the more groundbreaking products introduced at NAB this year was a little box from Silicon Graphics that specializes in computer-generating sets. Instead of just a few colored walls, Silicon Studio fully renders, shadows and texture maps sets indiscernible from the real thing. The idea is to place your actors on a blue screen stage and have them do their thing while the computer drops in the set and matches the camera moves, *all in real time*. At the moment Silicon Studio is geared toward low-budget news departments that lack the money to build a CNN-like stage, but as the complexity and quality of the sets increase it will probably begin to find use in mainstream television production.

Without a doubt, this development is going to more clearly define the long-term effects of the digital revolution in Hollywood. Though computer-generated special effects may have been seen by some as purely a niche market with limited growth, virtual set-making is going to turn the entire industry on its ear. Only a few people have a need for spaceships and aliens, but every production, from sci-fi to Westerns, needs sets. All too often, producers simply don't have the money to build as many as they need or make them as lavish as they'd like. With maturing digital technology, limitations will no longer be an issue. Anything from a bridge to a bathroom can be built cheaply and easily, and with far more flexibility than "hard" sets.

Virtual set construction will become such a huge business that entire companies will be founded to do nothing but that. The only difference between these companies and existing ones will be their tools: bits and bytes instead of wood and nails. Who will do the building? You can bet that computer graphics artist will have a lot to do with it. These companies will most likely be headed by seasoned set designers (as they are now), but the crew doing the actual work will have an electronic background, not one of carpentry. People sort of like...you!

This usage of CGI is just as new as the entire field was a few years ago. As before, it will probably start slowly, with only a few pioneers producing work of reasonable quality. But before long, someone is going to promote a movie or TV show with mostly CGI sets, do it really well, and get a lot of publicity. And then everyone will jump on the bandwagon. Unlike the first revolution, however, this turnaround will probably be about two years tops. This means that the people who start working hard at it *now* have a chance at getting in on the ground level and growing with this new field. Best of all, this development solidifies the idea that we CGI people will indeed be allowed to specialize!

Until now, the computer animator has been judge, jury and executioner—a jack of all trades, and it can be a burden. When Mr. X wants some animation, the lone animator is expected to model it, texture it, light it and animate it, no matter what *it* is. Mr. Computer Graphics must do it all, even though in the "real" world people specialize in what they're good at.

The new virtual set technology proves this tradition is about to change. Computer-Sets-R-Us will probably stick to making digital sets, leaving the spaceships to people like Foundation and Amblin Imaging. Perhaps in a few years, when computer-generated people look better, some companies will specialize in CG character animation. Before long, there will be specialty houses all over Hollywood—ones that do creatures, ones that do spaceships, ones that do sets, ones that do characters—only it will all be digital. It will mean that people like us will finally be able to take off all those damn hats and concentrate on the areas that we do best.

In the long run, digital technology will have a greater impact than I think most people realize. All this CGI is going to become the Great Equalizer, because no one will have a technological advantage. All productions, from *Days of Our Lives* to *Die Hard 8*, are going to have the ability to produce striking visuals. The "bigger is better" fad that many movies are currently following will soon wither away. People will no longer be impressed by the best special effects or the most explosions. Once this battle is over, what will be left?

What has always been there: *Story*.

The tale itself will once again be brought to the forefront and filmmakers will find themselves, much to their amazement, concentrating on storytelling. Plot and characterization will actually be important again as Hollywood realizes that the only advantage anyone has left is pure, simple creativity. The real power will be back in the hands of the people with good ideas.

Want some *really* good career advice? Put away LightWave for a few days and click on the Notepad icon (or a good word processor). Try churning out a decent story or two instead of a new 3D opus, because in a few years, the pen will once again be reminding everyone just how mighty it truly is.

### Contest Info

The deadline for the *Star Wars* contest announced here last month is Sept. 17, 1995. Submit all entries on a 1/2-inch cassette to VTU Star Wars Contest, 273 N. Mathilda Ave., Sunnyvale, CA 94086. Winners will be notified by mail. All entries become property of VTU. Good luck.







T A P E L E S S

# EDITOR

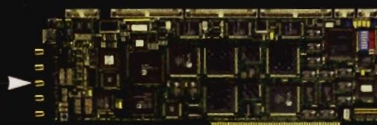
The next big leap forward in video production technology, a non-linear editing system for everyone. Not only is the Flyer the easiest-to-use non-linear editor, but it also has the same capabilities and quality you expect from a production suite with \$50,000 video tape decks.

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

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

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

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



Your Flyer card is the heart of the new Video Toaster. With your Flyer installed in the Video Toaster Bay™, it becomes the new Video Toaster system. Now, you have a portable field recorder. Plug your camera into the Toaster and record direct to hard drive.

Your new Toaster system also has built-in time base correction with proc amp controls, three digital still stores, a four-input production switcher, video processor, luminance keyer, SMPTE time code reader/generator and a single frame animation recorder.

The Flyer installed in the Toaster Bay gives you the added flexibility of running it with your Amiga/Toaster system or any PC running Windows 95 or Windows NT. Everything you love about your Video Toaster Flyer and the freedom to use it anywhere.

*"With the Flyer it is phenomenal how fast and easily you can create A/B roll edits. I can put together 5 shots with dissolves in 5 minutes, before the Flyer, that same job would have taken an hour."* Rex Olson, Rave Video Productions, Burbank, CA.

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Flyer Requires: Amiga 2000 or 4000, Video Toaster Card and Video Toaster System 4.0 software with 9MB of RAM minimum, 100MB free on hard drive. Single SCSI II drive required for LightWave recording. For A/B roll editing two SCSI II drives and one SCSI drive is required. Input from video tapes must be time base corrected. Consult your dealer to configure a system suited to your needs. Some features require an Amiga with the AGA chip set. Specifications subject to change without notice. Amiga is a trademark of Commodore, Inc. Windows 95 and Windows NT are trademarks of Microsoft Corp. Video Toaster, LightWave 3D, Video Toaster Flyer, Video Toaster Bay, ToasterPaint, ToasterCG and Toaster are trademarks of NewTek, Inc. Design FryeAllen, Inc. © NewTek, Inc. 1995.





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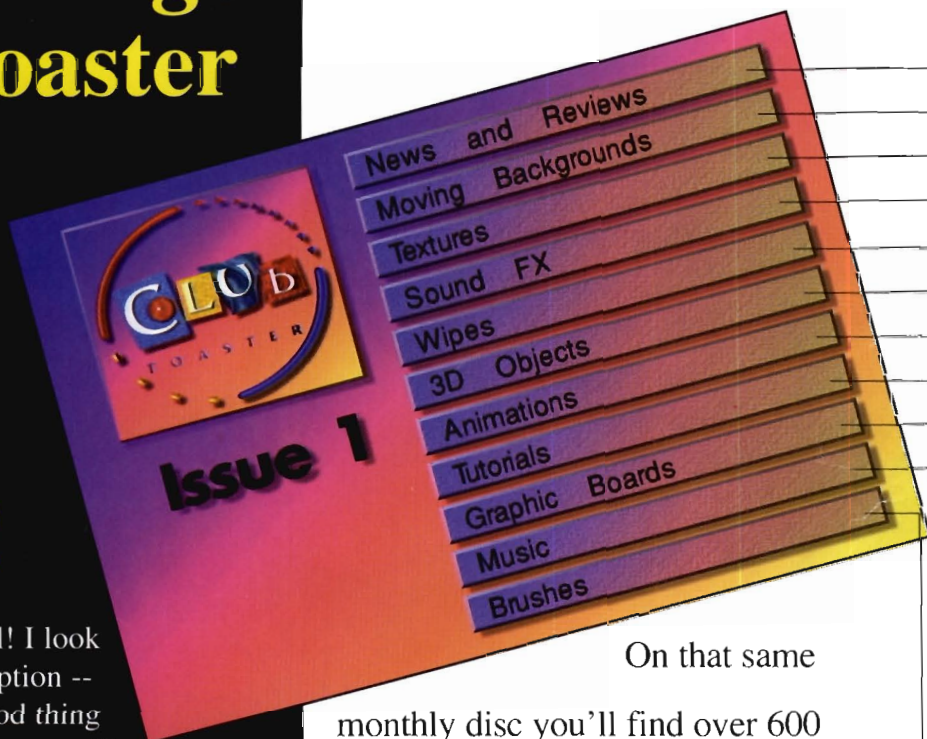


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