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International Edition

Sistema Clube Opts for GF-50



Sistema Clube created this abstract on the Grass Valley GF-50 for a "save the rain forest" environmental program.

by Simon Paul Scudder
Manager, Video Production
Sistema Clube

RIBEIRAO PRETO, Brazil Sistema Clube is a broadcast network consisting of one TV channel, AM, FM and shortwave radio stations, and facilities for audio and video production and post production.

About two and a half years ago, we were shopping for a character generator and a computer for 3-D rendering.

The Graphics Factory GF-50 integrated video graphics system, from Grass Valley Group, was the only device that could interface with our equipment and provide character generation as well as 3-D rendering capabilities in one device.

Located in the state of Sao Paulo, Sistema Clube is probably the best-equipped post facility

(continued on page 28)

Japan Considers 'UDTV'

by Frank Beacham

CAMBRIDGE, Massachusetts No longer content with its analog MUSE HDTV system, Japan is looking to develop a second generation "super fidelity, super resolution" digital transmission technology that could provide an image quality comparable to 70mm motion picture film, a top Japanese software executive revealed recently.

Speaking at a conference on digital television at the Massachusetts Institute of Technology's Media Lab, Kazuhiko Nishi, president of the ASCII Corporation of Tokyo, said the Japanese Ministry of Post and Telecommunications (MPT) is considering a proposal to create a research and development company called Digital Movies Laboratory (DML) that would concentrate on the development of what he called ultra-definition television (UDTV).

Funding of DML could cost US\$100 million, and the Japanese, Nishi said, welcome outside investors who would share in profits from the new technology.

All-encompassing

While the aspects of the UDTV system have not yet been determined, Nishi echoed the desires of his Media Lab hosts by advocating an integrated, scalable digital system that

would encompass all broadcasting, telecommunications, computing and consumer electronics devices.

Nishi said a 2.5 to 3 gigabyte-per-second digital system could allow the integration of UDTV with 70mm film quality, HDTV, current resolution TV, multichannel digital sound, photography, printing, electronic newspapers, libraries and museums, graphics, FAX, videophone, CAD/CAM applications and videotex.

50-year life

He said the system is projected to take seven years to develop and should have a life expectancy of at least 50 years.

As for its current MUSE system, Nishi said Japan "has face-saving problems after spending millions" on this analog system, but now recognizes that the future of television is digital.

Suggesting it is "too cruel" to ask the Japanese to drop Hi-Vision, he predicted MUSE will be retained by Japan for satellite delivery of 16:9 widescreen format NTSC video within the country's borders.

The key application for UDTV, Nishi said, is "personalized television," a technology that would allow viewers to select motion pictures, museum displays or oth-

er exhibitions on demand, and would allow interactivity with schools, shops or medical facilities.

Nishi said interest in a digital ATV system that would exceed current HDTV systems began with Japan's Minister of Post and Telecommunications, who decided to pursue an all-digital system earlier this year. An MPT study committee, of which ASCII is a member, is expected to issue a report of recommendations on a digital system by the end of 1992.

The committee, Nishi said, will study and make suggestions concerning universal video coding, advanced video input/output, broadband and satellite technologies.

The goals of the new Japanese system are higher definition video with a bigger display, multipurpose usage of video software and multisourcing of video software (multimedia).

Nishi insisted that Japan wants to create an open system with a pool of international investors. He called for "standardization with no politics" and a system where "the fruits will be shared by everybody."

For a successful digital standard, he said "we need to agree once, do it right once."



SIGGRAPH '92 in Chicago, Illinois, showcased the latest graphics technology. Turn to page 8 for an overview.

The image at left was created with AT&T Graphics Software Labs' RIO software.

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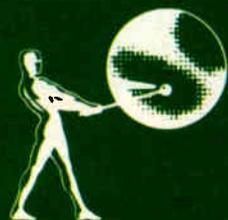
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DIGITAL BROADCASTING

ITU Group 11 Talks Center On Digital TV

GENEVA The application of digital techniques dominated a recent meeting of an International Telecommunication Union (ITU) study group, SG 11.

Major steps forward were made with the approval of the first recommendation on "Digital TV broadcasting in VHF/UHF bands." This specifies the requirements for new terrestrial TV emission systems that need to comply with existing 6, 7 and 8 MHz channelization schemes.

There also was approval of the first recommendation on "The coding rate for wide RF-band HDTV broadcasting-satellite service," establishing 140 Mbit/s as the channel coding rate.

For information contact the ITU in Geneva at telephone: +41-22-730-5969; or FAX: +41-22-733-7256.

BUSINESS

AVS Delivers Manuscripts

SURREY, U.K. The Manuscript character generator from AVS Broadcast is installed in broadcast post production and corporate facilities worldwide from the U.K. and

Australia to countries across Europe.

Two units were sold each to the Australian Broadcasting Corp. (ABC) and Mantello Electronique in France. A unit also went to Media Rodzina, a video facility in Poznan, Poland.

Other Manuscripts are found at Kanal 3 Broadcast in Norway, and TV Midt Norge Productions of Norway uses one in its new OB van. Also, the units are used by such corporations and government organizations as HM Customs and Excise in the U.K. and the Royal Australian Navy.

For information from AVS in the U.K., contact Lyndsey Andrew at telephone: +44-81-391-5678; FAX: +44-81-391-5409; or circle Reader Service 111.

LEITCH NOMBRA GERENTE PARA LATINOAMERICA

ONTARIO, Canadá Leitch Video International anuncia el nombramiento de Fernando Paulino como Gerente de Ventas para Latinoamérica.

Fernando aporta a su nueva posición 16 años de experiencia en televisión. Previamente trabajó en ventas, manufactura y control de calidad. Fernando habla inglés, francés, español y portugués.

Por favor dirijan cualquier pregunta de Suramérica, Centroamérica, o del Caribe a Fernando Paulino en Leitch Video International, Canadá, al teléfono +1-416-445-9640, FAX o marque el No. 40 del Reader Service.



Fernando Paulino

Chyron CVA Supports IRIS

MELVILLE, New York Chyron Corp., a member of the Pesa Chyron Group, has announced it will produce a broadcast-quality video adapter board for Silicon Graphics' IRIS Indigo workstation.

The Chyron Video Adapter (CVA) will allow IRIS Indigo users to input and output full-color, 24-bit images in numerous formats, including RGB, PAL/NTSC, and Y/C.

Chyron officials see the relationship between Chyron and Silicon Graphics as a "baseline for professional video systems of tomorrow," and are eyeing such applications as medical imaging, scientific visualization, 3-D animation and electronic paint.

For more information, contact Chyron at +1-516-845-2000.

Nexus Report Outlines New Wire Service

DACHAU, Germany Calling Newswire 2000 "the latest development in computer systems for process news." Nexus said the system can be customized to suit a client's needs.

Copy from news agencies, bureaus and field correspondents is received via standard communication lines—dial-up or

dedicated lines, radio and satellite lines, modem, telex, Datex-P, X.25 or ISDN.

Reports are edited using word processing systems such as WordPerfect, MS Word, and Word for Windows, for some examples. Using a table to provide an overview, a broadcaster can create a programming schedule.

Simple commands help take control over planning news rundowns. References to on-air text, sound cuts, still images and video reports appear for producers in a graphic table, allowing them to easily make quick decisions and changes as the needs arise.

For information from Nexus, contact the company in Germany at telephone: +49-8131-60-77; FAX: +49-8131-66-49; or circle Reader Service 56.

NEW TECHNOLOGY

Camera Pans Via TV Sets

MORRISTOWN, New Jersey Bellcore has unveiled an experimental new video camera system that allows individual viewers to pan left or right from their own tele-

vision sets, without affecting other sets.

Called electronic panning, the system utilizes a stationary camera that covers a wide viewing angle. Using a high-speed network, viewers could direct their sets to display a scene from a variety of angles.

"For example, during a football game on television, one person could watch the action on the field. Another person would watch the band practice in the end zone, while a third could look around the stands," said Lanny Smoot, co-inventor of the technology.

Bellcore has tested a number of consumer interfaces for the system, including one that would allow users to "push" the picture by touching the screen and another for remote control.

Bellcore officials expect the technology to enhance such applications as desktop videoconferencing, distance learning and manufacturing.

Smoot said Bellcore has proven the technical feasibility of a panning system that would cover 180 or 360 degrees.

Bellcore provides research and other technical support to telecommunications companies.

For more information, contact Mike Giovia at Bellcore: +1-201-740-4762.

SHOW LISTING

Upcoming conventions, meetings and exhibitions:

16-27 November

ABU General Assembly

Bali, Indonesia. The General Assembly and associated meetings of the Asia-Pacific Broadcasting Union will be held in Bali. For information, contact ABU: P.O. Box 1164, 59700 Kuala Lumpur, Malaysia; telephone: +62-603-2823592; or FAX: +62-603-2825292.

17-20 November

17th Tonmeistertagung

Cologne, Germany. This show will be held in the Stadthalle Karlsruhe, including lectures, product forums and technical tours. The exhibition will cover more than 4,000 square meters. For information contact at telephone: +49-2238-43098; or FAX: +49-2238-43294.

18-21 January 1993

Middle East Broadcast '93

Bahrain. The Middle East Broadcast '93 will be staged at the new Bahrain International Exhibition Center focusing on television, radio and program production. Contact Organizers: Arabian Exhibition, Management WLL, P.O. Box 20200, Manama, Bahrain; telephone: +973-250033; FAX: +973-242381. Contact Worldwide Agents: Overseas Exhibition Services Ltd., 11 Manchester Square, London, W1M 5AB, U.K.; telephone: +44-71-486-1951; FAX: +44-71-935-8625.

17-20 February 1993

Indonesia '93

Jakarta, Indonesia. The 5th International Professional Sound, Film, Video and Lighting Exhibition covering Southeast Asia. Contact worldwide organizers: Overseas Exhibition Services in London at telephone: +44-71-486-1951; or FAX: +44-71-486-8773.

16-19 March 1993

92nd AES Convention and Exhibition

Berlin, Germany. For details on the show, contact Audio Engineering Society in Brussels, Belgium, at telephone: +32-2-345-7971 or FAX: +32-

2-345-3419. (Future show: 28 February-2 March 1994, Amsterdam.)

19-22 April 1993

IAB '93

Las Vegas, Nevada. The 23rd General Assembly of the International Association of Broadcasters will be held in conjunction with the 1993 National Association of Broadcasters Convention. Three days of meetings will be held at the Las Vegas Convention Center.

19-22 April 1993

NAB 1993

Las Vegas, Nevada. The 1993 National Association of Broadcasters Convention, with exhibits and sessions, will be at the Las Vegas Convention Center. For information write NAB at 1771 N. Street, N.W., Washington, D.C. 20036-2891 USA, or contact at telephone: +1-202-429-5409; FAX: +1-202-429-5343. [Future show: All located in Las Vegas, Nevada\22-25 March 1994].

8-10 July 1993

Broadcast '93

Hong Kong. The 2nd Hong Kong International Broadcasting, Sound, Film and Video Exhibition. For exhibiting information contact: Overseas Exhibition Services in London at telephone: +44-71-486-1951; or FAX: +44-71-413-8230.

13-21 May 1993

SVIAZ '93

Moscow, Russia. The 6th biannual Communication, Data Transfer and Processing Equipment Show held in the EXPOCENTR in Moscow. For information on SVIAZ '93 contact Ms. Susanne Hess, Exposition Manager at TNT Productions Inc. P.O. Box 717, Callao, Virginia 22435, USA; telephone: +1-804-529-5510; FAX: +1-804-529-5057.

Send announcements to TV Technology International, P.O. Box 1214, Falls Church, Virginia 22041 U.S.A., or FAX: +1-703-998-2966.

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MACWORLD Draws Video Exhibits

by John Spofford

BOSTON, Massachusetts Billed as the world's largest showcase for the Macintosh, the MACWORLD Expo opened in Boston on 4 August. The MACWORLD Expo was massive: more than 400 exhibitors occupying 300,000 square feet filled to capacity both Boston's World Trade Center and the Bayside Exposition Center.

A major portion of this year's MACWORLD was devoted to "filmless," or digital, photography. This technology combines digital still cameras, color scanners, full color editing software and sophisticated color printers. Represented by industry giants such as Eastman Kodak, Polaroid, Canon and Sony, filmless photography is geared toward the printing industry rather than video production. The color output from some of these computer printers was amazing (and some of the price tags were equally breathtaking!).

I didn't spend too much time looking at digital photography. I was faced with the hopeless task of seeing all of MACWORLD in a single day and I was looking for products related to video production. With 400-plus vendors in attendance, it was impossible to visit each, much less write about all of them. What follows are a few video highlights:

Deal the cards

The Macintosh has long been known as a graphics computer, and affordable "true color" graphics cards, which display a spectrum of 16.7 million colors, have become commonplace. Apple's 32-bit QuickDraw standard integrates true-color capabilities into the Macintosh environment, making photo retouching, image editing and advanced paint programs possible.

Adobe Photoshop (Adobe Systems Inc.) is an industry standard for color pre-press and commercial illustration. The latest

version of the program has further been adapted to the needs of video and multimedia artists. Photoshop offers a wide range of file format support covering most IBM and Amiga file formats as well as Encapsulated Postscript and Macintosh PICT files. Numerous filters are available for image processing. Photoshop (and most other Macintosh graphics programs) supports pressure sensitive drawing tablets.

A popular drawing tablet in use at MACWORLD was Wacom Technology Corporation's 6"x9" (about 15X23 centimeters) SD-510 with a cordless stylus. This tablet is about the size of a mousepad and weighs a mere 1.9 pounds (about 0.86 kilograms). The wireless pressure-sensitive stylus does not use batteries and has the weight and feel of a pen or pencil. A Wacom tablet serves as a comfortable drawing tool that is infinitely more natural than a mouse.

Paint programs

An interesting trend in computer paint programs is that more of them mimic natural painting and drawing media. AXA WaterColor (AXA Corporation) is an inexpensive (US\$79) paint program specifically designed to simulate watercolor painting. Via software, it is possible to mix colors on screen and use brush strokes that fade as the "brush" runs out of paint. The proportions of paint and water on the brush can be varied, as can size, shape and texture. It is even possible to vary the amount of water on the "paper" to make colors bleed together and blend as they touch each other.

Painter (Fractal Design) is a more sophisticated paint program that can emulate a wide variety of natural media. Painter includes colored pencils, crayons, calligraphy pens, oils, watercolor and an airbrush. My favorites are its ability to create brushstrokes in the manner of Vincent Van Gogh or Georges Seurat.

Numerous drawing surfaces are available including canvas and many different papers of various tooth. Painter takes advantage of pressure sensitive drawing tablets to realistically simulate crayon or charcoal marks; press harder on the stylus and the charcoal is pressed deeper into the "paper." A tracing mode allows an artist to draw or paint over an existing image, creating a hand-drawn version that can be saved as a separate file. A cloning feature automates this process—import a scanned photograph, and Painter

nose, mouth, hairline and so on. The quality of the morph is determined by the quantity and accuracy of the morph points. It is also possible to modify the speed of transitions of the various points and to create transformations between totally unrelated objects.

Pixar demonstrated Typestry, a recently introduced 3-D text modeling program designed with 2-D illustrators in mind. Fonts with the 3-D "look" are very popular for logos, brochures, slides and video. Typestry lets an illustrator create 3-D

An interesting trend in computer paint programs is that more of them mimic natural painting and drawing media.

will convert it to an oil painting or other media. To my eye, this program would be perfect for creating "natural media" backdrops for video titling or for modifying digitized sequential video frames for rotoscoping effects.

Making morphs

One of the "hits" of MACWORLD (as measured by the crowds) was the "Morph Movie" created by Morph (Gryphon Software Corporation). Morph is a software package designed to create image metamorphosis, where pictures are smoothly transformed one to another. It is a popular effect commonly seen in feature films, music videos and commercials. If calculated by a computer capable of true color, the effect can be startling.

The "Morph Movie" at MacWorld was actually a computer animation where portraits of U.S. presidential candidates Bill Clinton, Ross Perot and President George Bush blended one into another. Morphing is created by loading the starting and ending pictures and setting key points between the two. For example, in the case of two faces, the right eye of both images is defined, then the left eye, followed by

fonts without the difficult learning curve of a full featured 3-D modeling program. It converts TrueType or Type 1 fonts into 3-D objects while preserving the font's bezier geometry. Fonts may be extruded to various depths, moved and rotated into any position, and finally given an attractive appearance with a variety of built-in "looks" or procedural textures.

Typestry provides full control of lighting with a panel of nine front facing and nine rear facing lights that can be adjusted or turned on and off. In addition, "light gels" serve as lighting filters for special effects. Typestry also includes some basic animation effects for flying logos (including motion blur) for demonstrations or Apple QuickTime movies.

Typestry is compatible with Pixar's other Macintosh products including MacRenderMan (which creates photorealistic stills) and NetRenderMan. NetRenderMan allows the rendering task of creating many animation frames to be distributed over a Macintosh or UNIX network. Instead of a single Macintosh chugging away for hours (or days), the work can be sent shared by a network of Macintosh's or even sent to more powerful UNIX workstations.

Modeling and animation

A large number of full featured 3-D modeling and animation programs are available for the Macintosh platform. For example, Macromedia introduced MacroModel, a program the company claims offers a whole new approach to 3-D modeling. MacroModel creates objects based on splines (essentially bezier curves in 3-D space), allowing 3-D objects to be modified interactively by moving each spline's control points. Also included are standard extrude, lathe, sweep and skin tools to create 3-D objects from 2-D outlines. The modeler builds objects relative to each other in 3-D space, which can be viewed interactively from any angle, rather than in separate design windows. This 3-D "world" has a high degree of accuracy, much like a computer drafting program.

MacroModel offers fast rendering but no animation capabilities. It is compatible with and intended to be used in conjunction with other Macintosh rendering and animation packages such as Macromedia's own MacroMind Three-D. MacroModel lists at US\$1,595, and, bundled with MacroMind Three-D, it is US\$2,495. Bundled with Pixar's

(continued on page 6)

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ABU Offers Worldwide Forum

Editor's note: The following is an adaptation of a paper on the Asia-Pacific Broadcasting Union (ABU) presented at the 1992 NAB, which was submitted by ABU Technical Centre Director O.P. Khushu.

KUALA LUMPUR, Malaysia The Asia-Pacific Broadcasting Union (ABU) is a professional association of broadcasting organizations in countries and territories of Asia and the Pacific that stretches from Western Samoa in the East to Egypt in the West, and from the People's Republic of China in the North to New Zealand in the South. The region covers two-fifths of the world's circumference and contains nearly two-thirds of the world's population.

The ABU has no political or commercial aims and is a non-profit body that derives its revenue from membership dues. Its principal role is to provide an avenue to professional broadcasters to cooperate and collaborate irrespective of political, racial or religious affiliations.

Members from 50 countries

At present, the ABU has 79 members in 50 countries and divisions composed of 39 full members, 14 additional full members and 26 associate members. The full members and additional full members are national broadcasting organizations in independent countries. Associate membership is open to similar organizations both in the ABU region and other parts of the world.

In its structure, the General Assembly is the supreme body. It meets annually, and each member is entitled to send a delegation of its choice. This year's meeting is 25-27 November in Denpasar, Bali.

Among its committees is the Standing Engineering Committee that is empowered to establish Working Parties (WPs)

with specific terms of reference and membership to study and report on particular problems.

Working Parties carry out a range of engineering studies that focus on effective contribution toward the development of international standards for broadcast equipment and systems.

GUEST COMMENT

Current studies underway include enhancement of conventional television systems; satellite news gathering; and propagation investigations.

The activities of the ABU have to be set against a backdrop of immense diversity. However, as a majority of its members operate in developing countries, special attention is given to aspects of broadcasting of particular interest to members in those countries.

The ABU Technical Advisory Service (TAS) provides the smaller members with services of experts from the larger and more advanced members for short-term consulting. This service is coordinated by the Technical Centre that receives requests for assistance and arranges for the provision of the necessary expertise from appropriate organizations.

The Technical Centre publishes technical monographs and manuals based on studies undertaken or coordinated by the ABU. These publications are designed to provide practical, readily usable information on the topics covered.

The ABU keeps in touch with the activities of the International Telecommunication Union (ITU) as well as its specialized organs, and represents the interests of its members in the work of these bodies. Particular emphasis is placed on the World Administrative Radio Conferences (WARCs) dealing with broadcasting matters.

Variety of services

The Technical Centre also collects information from members and maintains up-to-date data on transmitters and other technical equipment in use in the ABU region.

A bimonthly journal, the ABU Technical Review, carries articles contributed by members, news on technical developments, equipment trends, reviews of technical publications and digest of international broadcasting news. Members are further provided with reproductions of the best articles published in technical journals worldwide.

The training of technical staff is a matter of critical concern to ABU members. A

sister organization, the Asia-Pacific Institute for Broadcasting Development (AIBD), exists to provide training to ABU members organizations and mounts about 60 such activities a year.

The ABU conducts a range of program activities, some of which have a significant technical element. The most important of these is a daily exchange of television news items by satellite between ABU member organizations. Another important program activity is in the area of sports, including arrangements to secure coverage of the events for which the ABU has acquired rights.

For information from the ABU, contact the organization at P.O. Box 1164, Pejabat Pos Jalan Pantai Bahru, 59700 Kuala Lumpur, Malaysia; telephones: +60-3-282-3592/282-2480/282-3108; or FAX: +60-3-282-5292.

TV Technology and its sister publication, Radio World International, invite broadcasting organizations worldwide to submit articles on their individual groups. Write about your structure, ongoing technical developments or any subject you would like to inform your fellow broadcasters about.

Submit proposals to TV Technology International Editor Marlene Lane and Radio World International Editor Alan Carter at: 5827 Columbia Pike, Suite 310, Falls Church, Virginia 22041 USA; or FAX +1-703-998-2966.

The State of China's Broadcast Operations

by Eliten Y. Cheng

SHENZHEN, China The population of China is approximately 1.1 billion—one quarter of all mankind lives here. The geographic mainland is complicated, with mountains and hills covering about 70 percent of the land. As a result, Chinese broadcasters face a difficult situation.

In 1979 the central government implemented a step-by-step open policy system, allowing importation of some broadcast equipment. With this, the approval process to establish broadcasting stations was transferred partially from the central to local governments—provinces, cities, counties and even some major business enterprises.

This cultural revolution broke through China's isolated communications capabilities, allowing its people to learn of events both in the country and abroad. They can watch TV by home antenna, common antenna, cable, and even satellite receiver.

Local stations

Today, local governments establish their own broadcast stations by local financial support. It is these local stations that traditionally test and adopt new broadcasting techniques and technology. For example, teletext is in Shenzhen and bilingual—stereo TV broadcasting is in Guangxi, Xinjiang.

Local stations primarily serve only local areas. Other than two daily 30-minute network broadcasts, local stations broadcast original programming, including local news, opera, drama, prices on typical goods, financial reports, sports events and stock market rates (in Shenzhen).

In the past, central broadcast stations linked local stations by microwave transmitting networks. Now they are linked by

satellite. Some local stations also use satellite to serve their audience. In the Yunnan, Guizhou and Sichun provinces, receiving transmission by surface is almost impossible.

In the last decade, TV stations have increased in number from 37 to 509. All are locally based.

In May 1984, the first Chinese telecommunication satellite was launched successfully. China Central TV station and Central Radio station use this satellite to transmit programming over the entire country in the C band. In 1989, Xinjiang, Xizang (Tibet), Yunnan and Guizhou

GUEST COMMENT

began to broadcast TV programs over the same satellite.

By the end of 1990, there were 19,500 satellite earth stations receiving and retransmitting. Yunnan established 2,305 earth stations, enabling every town and township to have its own.

Microwave transmitting networks still play an important role in the local broadcasting industry. Most are two-way. A central station transmits the program to local stations, which in turn transmit local news back to the provincial capital or Beijing. A typical local dedicated broadcast microwave networks is 44,243 km long and has 970 relay stations in it.

Cable

In the city, with buildings and towers everywhere, interference is a serious problem. Common TV antenna systems have dramatically developed in the past decade. In the early 1980s, businesses began establishing their own local cable TV systems, followed by the develop-

ment of regional cable TV stations, such as those established in Shashi City, Hubei and Foshan City, Guangdong.

The early cable systems transmitted nearly a dozen channels of programming and FM stereo—80,000 families paid for these systems. By the end of 1990, about 314 cable TV stations were in operation to serve regional districts and 782 were owned by enterprises.

Broadcast industry development is dependent on the economy. Currently, there are 384 million radios and 178.5 million TV sets in use.

More and more, radio and TV stations are being built that use new equipment, including DAT, hard disk and magneto-optical disk recorders/editors. TV technology includes component video recorders (M-II and Betacam SP), component video switching and digital video editing, computer graphics and title generators.

In the next decade, the local broadcast industry is expected to develop rapidly. In accordance with the plan of MRFT (Ministry of Radio, Film and Television of China), the annual increase of radio and TV coverage is expected to be 1 percent.

That means coverage will reach more than 90 percent by the end of 1999. The quality of broadcasting will improve, both in sound and picture, including the increased use of DBS in the Ku band to resolve coverage problems in mountainous areas. In CATV, satellite and surface receiving will be combined in radio and TV, video and film, and other media. The cable system will adopt optical fiber and MMDS techniques.

So far, the Chinese broadcast industry depended on central or local governments for financial support. With cable, it will become a paid system. This will provide a strong financial source to upgrade the industry. So the future will be bright.

Write Eliten Y. Cheng in care of TV Technology.

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Member, Business Publications, Audit of Circulation

Innovations Abound at MACWORLD

(continued from page 4)

MacRenderMan, MacroModel lists at US\$1,795. For truly high-end work, MacroModel is compatible with ElectricImage (ElectricImage, Inc.) but this combination would approach US\$10,000.

Another full featured 3-D package worth investigating is Infini-D 2.0 (Specular International), which is billed by the company as a broadcast quality animation tool. Infini-D combines a sophisticated 3-D modeler with extensive surfaces and textures, a renderer that includes raytracing, and an animation module. Infini-D is capable of true metamorphosis between any two 3-D objects. (Most programs can only morph between objects with the same number of points.) Infini-D is now "QuickTime-aware" and is able to generate QuickTime images and animations. Even more interesting is Infini-D's ability to import QuickTime movies that can be wrapped around objects as animated textures! This all-in-one package lists at US\$995, which, in Macintosh terms, represents a great value.

Specular International also offers BackBurner distributed network rendering for Infini-D. It can spread the formidable rendering task of a raytraced image or animation across a Macintosh network. BackBurner also includes a batch mode able to stack up a series of animations for overnight rendering.

QuickTime developments

Apple's QuickTime protocol is evolving into a tool for serious video editing. Adobe Systems has released version 2 of Premiere, its QuickTime movie editor. The original Premiere served as a non-linear editor for credit-card-sized QuickTime movies. Premiere 2.0 goes beyond this and now supports SMPTE time code and creates EDLs (Edit Decision Lists). The program features "plug-in" technology, allowing third-party developers to add the capabilities of specific EDLs. For example, Digital F/X will provide software to convert a Premiere movie to a Video F/X EDL for use in its non-linear editing system. In this way, raw video can be digitized to a Macintosh hard drive as QuickTime movies and edited off-line via Premiere 2.0. Then the EDL and tapes can be taken to a Digital F/X-equipped production facility.

SuperMac Technology demonstrated Digital Film, another interesting product using QuickTime technology. (The product had not yet been released at the time of the show, so what I write here may be subject to change.) The Digital Film card is a video production system that captures full-screen video and stereo sound to an ordinary Macintosh hard drive at 30 frames per second and outputs directly to a VCR at the same rate. It takes up a single NuBus expansion slot and, via a breakout box, provides input and output connectors for stereo audio, composite video, S-Video and a 15-pin component video output. The card is planned to support both PAL and NTSC and will provide SMPTE time code support and CMX format EDLs.

Digital Film uses a "motion" JPEG compression algorithm, which is hardware accelerated, with compression ratios selectable up to a 70:1 ratio. The video clips I saw were compressed at 50:1. At that level, compression artifacts were very noticeable, much like watching television through an aquarium. SuperMac claims that compression ratios up to 24:1 are loss-

less. Adobe Premiere 2.0 will be bundled with Digital Film, and the product should find a niche as a video production tool.

New Video Corporation demonstrated its EyeQ products, which are also able to digitize, compress and play back full motion, full-screen video.

However, EyeQ products use the Intel DVI video compression chip set. DVI compression is more efficient than JPEG, with hardware-assisted compression rates reaching as much as 160:1.

DVI video comes in two varieties: Production Level Video (PLV), which can approach broadcast-quality playback at

high compression rates but can only be compressed by service bureaus with access to large computers; and Real Time Video (RTV), which was demonstrated at MACWORLD. This lower-quality DVI variant can be compressed in real time by a Macintosh outfitted with the EyeQ capture adapter. The quality of RTV is similar to SuperMac's JPEG application.

Presently, EyeQ offers software consisting of capture and animation utilities and developer's toolkits, but it has yet to be adapted for video production tasks.

The following is contact information for products mentioned in this article:

"Adobe Photoshop"
"Premiere 2.0"
Adobe Systems Inc.
1585 Charleston Rd.
P.O. Box 7900
Mountain View, California 94039-7900
Telephone: +1-415-961-4400
(Circle Reader Service 3)

"AXA WaterColor"
AXA Corporation
17752 Mitchell Suite C
Irvine, California 92714
Telephone: +1-714-757-1500
FAX: +1-714-757-1766
(Circle Reader Service 117)

"Painter"
Fractal Design Corporation
P.O. Box 2380
Aptos, California 95001-2380
Telephone: +1-408-688-8800
FAX: +1-408-688-8836
(Circle Reader Service 128)

"Pressure-Sensitive Cordless Digitizers"
Wacom Technology Corporation
501 S.E. Columbia Shores Blvd., Suite 300
Vancouver, Washington 98661
Telephone: +1-206-750-8882
(Circle Reader Service 46)

"Typestry"
"MacRenderMan"
"NetRenderMan"
Pixar
1001 West Cutting Blvd.
Richmond, California 94804
Telephone: +1-510-236-4000
FAX: +1-510-236-0388
(Circle Reader Service 8)

"Morph"
Gryphon Software Corporation
3298 Governor Dr.
Box 221075
San Diego, California 92122-1075
Telephone: +1-619-454-6836
(Circle Reader Service 17)

"MacroModel"
"MacroMind Three-D"
MacroMedia
600 Townsend St.
San Francisco, California 94103
Telephone: +1-415-442-0200
FAX: +1-415-442-0190
(Circle Reader Service 64)

"Infini-D 2.0"
"BackBurner"
Specular International
233 North Pleasant Street
P.O. Box 888
Amherst, Massachusetts 01004-0888
Telephone: +1-413-549-7600
FAX: +1-413-549-1531
(Circle Reader Service 120)

"EyeQ" Products
New Video Corporation
1526 Cloverfield Blvd.
Santa Monica, California 90404
Telephone: +1-310-449-7000
FAX: +1-310-449-0132
(Circle Reader Service 112)

SGL Goes to the Show

BOSTON, Massachusetts As an exhibitor at MACWORLD, Silicon Graphics Incorporated occupied a large corner of the Bayside Expo Center. The company's presence at MACWORLD might seem a bit odd at first glance—after all it is a computer manufacturer pushing a non-Macintosh computer platform. But it makes more sense if you consider the categories of computers.

We tend to classify computers into three large categories: microcomputers, minicomputers and mainframes. Microcomputers include the Mac, IBM PS2s, Amigas, Ataris and hundreds of "IBM compatibles." At the other end of the spectrum are the mainframes, big dinosaurs that fill a room.

In the middle are the minicomputers, or workstations. The workstation market is fiercely competitive, the major players being Digital Equipment Corp., IBM, Sun Microsystems, Hewlett-Packard and Silicon Graphics. Workstations often are linked together in networks, use advanced operating systems, such as UNIX, and usually derive their computing power from RISC processors. RISC (pronounced "risk") is short for Reduced Instruction Set Computing. RISC processors are more specialized (and therefore faster) than the general purpose processors used in microcomputers.

Workstations offer higher performance than PCs and are priced accordingly. Traditional thinking places microcomputers in the US\$1,000 to US\$10,000 price range and sets workstations in the US\$10,000 to US\$100,000 bracket. Unfortunately, in this less-than-perfect world the line between micro and mini computers has blurred. A top-of-the-line Mac or PC edges into workstation territory in terms of both price and computer "horsepower."

Silicon Graphics has placed workstation performance into the PC price range with the introduction of its IRIS Indigo.

The Indigo, which Silicon Graphics likes to call a "RISC PC," is compatible with the company's upscale IRIS 4D computer family and yet it retails for less than US\$10,000.

Silicon Graphics has made its name in computer graphics. Special effects production houses have used Silicon Graphics' digital compositing for films. Some have used the IRIS 4D's fast rendering and video I/O to create "morphing" effects.

Which brings us back to the original subject. The MACWORLD Expo showcased the Macintosh's well deserved reputation for computer graphics. Silicon Graphics showed up at MACWORLD with its low-priced IRIS Indigo lineup, looking for serious Mac artists and animators who might want to "trade up" to the power of workstations.

Actually, though, Silicon Graphics' presence was not necessarily predatory. Macintosh software products such as Pixar's NetRenderMan allow Macintosh 3-D animation programs to pass the rendering task to a much more powerful UNIX workstation, such as the IRIS Indigo. For these types of 3-D tasks, the Indigo can be more than 100 times faster than the Macintosh Quadra, which is currently the fastest Mac available.

Silicon Graphics' IRIS 4D computers have been widely used to create animations for both feature films and broadcast television because they provide fast CPUs and advanced graphics specifically designed for real-time rendering of photorealistic images. With the introduction of the IRIS Indigo, much of this specialized computer graphics performance is now approaching the PC price range.

Silicon Graphics is tapping into the desktop video market. Several familiar video companies have announced development projects with Silicon Graphics to introduce video-specific products for the Indigo.

Two of these companies are Chyron Corporation and Avid Technology. Chyron, a well-known video company, part of the Pesa Chyron Group, is developing its Chyron Video Adapter to allow users of the IRIS Indigo to input and output video as RGB, NTSC/PAL and Y/C in a broadcast-quality product.

Avid Technology is a supplier of professional-level, non-linear digital film and video editing systems, much of which is currently Mac-based. Silicon Graphics will license Avid's JPEG digital compression board and work with Avid to redesign it as a plug-in board for the IRIS Indigo. Avid's board is capable of digitizing to disk and playing back full-screen video at up to 30 frames per second with television image quality.

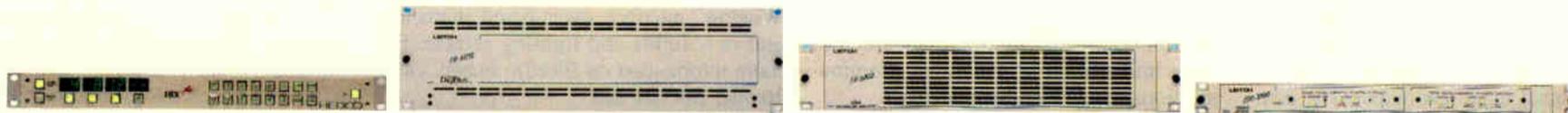
By coupling Avid's JPEG board with Silicon Graphics' video boards and animation capabilities, IRIS Indigo users will be able to output finished quality video productions from computer to videotape in real-time.

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Leitch Video International, Inc., 220 Duncan Mill Road, Suite 301, Don Mills, Ontario, Canada M3B 3J5 - Tel: (416) 445-9640 Fax: (416) 445-0595
Leitch Europe Limited, 24 Campbell Court, Bramley, Basingstoke, Hants., U.K. RG26 5EG - Tel: +44 (0) (256) 880088 Fax: +44 (0) (256) 880428

SIGGRAPH: A Window on Graphics

by Richard Farrell

CHICAGO, Illinois This year's SIGGRAPH (Special Interest Group-GRAPHics) exhibit, held here 28-30 July, drew a reported 34,000 attendees, up 9,400 from last year. And while many chose to wait in long lines for the various "virtual reality" exhibits, those who took to the floor saw a vast array of new graphics gear.

The following is a sampling of what SIGGRAPH had to offer:

Pinnacle was on hand to unveil the FlashFile still store, which offers instant access of up to 12 images in 1/60th of a

second and random access to as many as 10,000 images in as fast as one half of a second. The company's DVEator effects unit also saw some new features, including "Animation Disk II," which features effects such as page tears, bouncing spheres and geometric extrusions. For more information on Pinnacle, circle **Reader Service 11**.



A still image from "De-bug Op," an animation created for HDTV using TDI's Version 3.0 software.

second and random access to as many as 10,000 images in as fast as one half of a second. The company's DVEator effects unit also saw some new features, including "Animation Disk II," which features effects such as page tears, bouncing spheres and geometric extrusions. For more information on Pinnacle, circle **Reader Service 11**.

YEM (Yamashita Engineering Manufacturing) underscored the ever-increasing importance of file conversion by showing the CVS-980 scan converter. The unit converts graphic files from any computer (between 15 kHz and 80 kHz) into videotape format (standard outputs: RGB/Sync; Y/C for S-VHS and ED-BETA, component for Betacam; M-II; Y/R-Y/B-Y, and dual outputs for composite and superimpose). The company also showed other units from its array of scan converters, including the CVS-910 NTSC/PAL converters. For more information on YEM, circle **Reader Service 91**.

Going exploring

Meanwhile, Intelligent Resources announced that its Video Explorer digital signal processing card for the Mac now has support for multiple configurations of RGB and D-1 serial input and output. The company offered showgoers a 3-D demonstration that showed how a standard Mac could be transformed into a broadcast-quality video production station, using off-the-shelf software and D-1 serial connections to professional video gear. The demo used a Mac II in conjunction with MacTopas animation software (from AT&T Graphics Software Labs), Diaquest's DQ Animaq machine control, and Sony Betacam SP decks with serial interfaces. For more information on Intelligent Resources, circle **Reader Service 78**.

As for AT&T GSL, the company highlighted the release of version 4.0 of its popular Topas 3-D modeling, rendering

and animation software. Backed by ongoing demonstrations of the new software, AT&T GSL promised faster rendering speeds on Topas 4.0, in addition to new features that include support for bump, shininess, luminance, X-ray and procedural mapping; importing of PostScript Type 1 outline fonts for model building; and new directional lighting, spotlighting and distant lighting capabilities.

AT&T GSL also whetted the appetites of many a graphics pro by promising RIO 6.0, the latest version of the RIO 2-D design and illustration software. The company reported the new RIO package

would be due out in November of this year. For more information on AT&T GSL, circle **Reader Service 130**.

On screen

In an effort to provide graphics users with a monitor that can adapt to many color applications, Panasonic Communications & Systems Company's Office Automation Group introduced a 17-inch flat square screen, variable frequency,

IBM demonstrated the capabilities of its RISC System/6000 along with a new model of the IBM POWER Visualization System (PVS).

multiscanning color monitor that combines low electrostatic and electromagnetic emission levels with PanaColor color matching, AGRAS (Anti-Glare, anti-Reflection, Anti-Static) CRT coating and digital controls. The PanaColor color matching permits users to match color printing output from a Mac, a PC running Windows 3.1 or OS/2 2.0, or a workstation running Windows when using a 16-million color video graphics board. For more information on Panasonic Communications, circle **Reader Service 7**.

Avid Technology's recent purchase of Flamingo Graphics was evident at SIGGRAPH with the company's display of Bola32 version 2.0 character generation and presentation software, which will now be marketed under the aegis of the Avid Flamingo Graphics Group. Avid also unveiled Media Suite Pro, a desktop video production system targeted at corporate, industrial and multimedia markets. The Mac-based system is based on the company's established Media Composer digital non-linear editing system.

Avid actively promoted its Open Media Framework interchange standard, noting

that 30 vendors had agreed to become partners in developing the standard, which is a file format—initiated by Avid—to facilitate transfer of digital media within the video, audio, animation, film, graphics and computer industries over standard computer networks. Its partners thus far include the likes of Silicon Graphics, Digital Equipment Corp., JVC and the Grass Valley Group. For more information on Avid, circle **Reader Service 103**.

HD camera

For its part, JVC displayed a new color video camera designed for electronic imaging and HDTV applications, the TK-F7300U. The camera provides images with resolutions up to 4416x3456 pixels, using a computer equipped with a video graphics board. Also shown by JVC was the Personal RomMaker for the Macintosh, a hardware and software system that allows users to pre-master their own CD-ROMs. For more information on JVC, circle **Reader Service 92**.

High-end graphics innovator Symbolics showed new 3-D character animation software designed to give users the ability to create more realistic character movement. Skeletal Animation software allows users to control a polyhedral object from a wire-frame skeleton; and Gestural Animation allows artists to animate time-consuming tasks such as lip-syncing, complex hand movements and walking cycles. For more information on Symbolics, circle **Reader Service 82**.

SoftImage's "booth" (more like a densely populated outpost) was filled with the company's release of version 2.6 of the SoftImage Creative Environment. Highlights of the new version include a new character keyframe editing technique (primarily for animation) and improved

channeling and rotoscoping options. For more information on SoftImage, circle **Reader Service 16**.

At Electric Image's display, the company showed version 1.5 of the ElectricImage Animation System, a Mac-based animation production tool, which has new features such as shadow casting, transparency mapping, environmental mapping, a "Project Window" interface, event-based animation, and new lights and lighting effects. For more information on Electric Image, circle **Reader Service 122**.

New compositions

New releases unveiled by Wavefront Technologies included Video Composer 2.0, a desktop video production package that has new compositing, interface and video functions. Also shown was the Data Visualizer, version 2.1, which provides interactive data analysis, animation and visualization capabilities. Also, Wavefront showed its Advanced Visualizer running on the SGI Indigo workstation as well as the SUN Sparc GX. For more information on Wavefront, circle **Reader Service 131**.

Both business news and technology sur-

rounded VideoLogic's booth. The company said it has reached an agreement with IBM to form a joint multimedia development. The goal of the joint relationship is to develop and manufacture high volume, low cost video graphics and multimedia products for IBM's PS/2 and other PC platforms for both OS/2 and Windows. The companies will, of course, continue to sell existing products and develop future products outside of the development arrangement.

On the technology front, VideoLogic had among its displays its Rapier 24, a 24-bit graphics processor for the PC. It is the first graphics processor to eclipse the gigapixel barrier (1 billion pixels per second). It is the first in a new line of computer graphics products VideoLogic plans to develop. Also shown by the company was the Mediator, a unit that converts standard analog RGB Macintosh or VGA graphics from the computer to a composite or S-video signal in either NTSC or PAL, allowing output to videotape formats such as S-VHS, Hi8, VHS and Video 8. A single, portable box, the Mediator requires no special hardware or software for installation. VideoLogic's MediaSpace adapter card brings real-time video and audio compression to standard desktop EISA/ISA PCs and compatibles using motion JPEG compression. For more information on VideoLogic, circle **Reader Service 121**.

Price breakthrough

Abekas Video Systems made a price breakthrough with its announcement of a real-time digital disk recorder, the A65, that offers 25 seconds of storage for less than US\$25,000. The A65 records in 525/60 and is switchable to more than 30 seconds of recording in 625/50. The unit also comes standard with a SCSI and Ethernet interface that allow transfer of images without digital video output boards. Also on hand from Abekas was the established A66 digital disk recorder, which has 50 seconds of record capacity for less than US\$30,000 (not including a SCSI/Ethernet interface). For more information on Abekas, circle **Reader Service 5**.

Time Arts had on display its LUMENA and Creative License software packages. LUMENA color graphics software runs on IBM ATs, PS/2s and compatibles, and Creative License is a graphics package geared toward Silicon Graphics workstations. For more information on Time Arts, circle **Reader Service 30**.

FOR.A made a high-definition imaging demonstration that made use of the company's HMC-1020 HD camera and REBO Research's ReStore/Pro high definition imaging system. For more information on FOR.A, circle **Reader Service 119**.

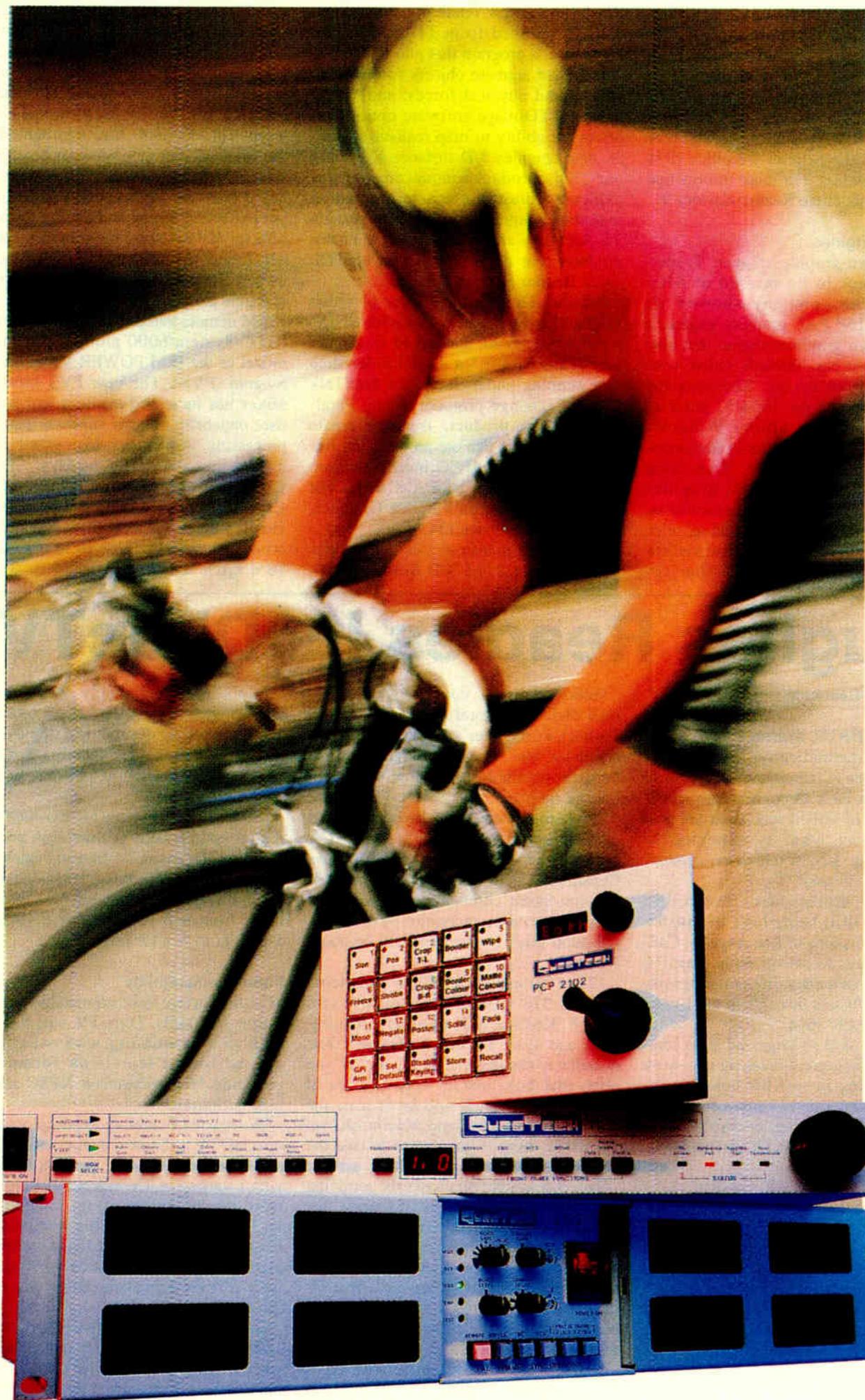
Hotronic showed its established AP41 standalone TBC/frame synchronizer, which is compatible with S-VHS, VHS, U-matic, U-matic SP, Hi8, Betacam and satellite feeds. It features four times sub-carrier sampling and eight-bit resolution. For more information on Hotronic, circle **Reader Service 93**.

Parallel processor

A new parallel processor, the RM/XL, was highlighted in the booth of Digital

(continued on page 10)

OUR NAME... ON THE BEST FRAME SYNCHRONISER MONEY CAN BUY



From the company that has supplied the world with broadcast quality PAL Frame Synchronisers for the past 12 years, a third generation design using well proven 4:2:2 component processing in a 2'U' rackmount product packed with features:

- ▼ Adaptive digital comb filter PAL decoder with superb performance*
- ▼ Adaptive clamping and sync separation to minimise noise streaking
- ▼ Adaptive fast-lock digital burst-locked oscillator for exceptional chroma stability*
- ▼ Excellent signal/noise performance
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- ▼ Time Base Correction mode
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- ▼ Delay signal for steering external audio delay unit.
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- ▼ Vertical interval Insertion Test Signal pass mode
- ▼ A/B PAL composite input
- ▼ A/B Y, Cr, Cb component or R,G,B switchable inputs
- ▼ D2 digital composite input
- ▼ Two PAL composite outputs
- ▼ Y,Cr,Cb component and R,G,B outputs
- ▼ Optional CCIR 656 serial or parallel digital output.

*The 2102P
synchroniser from*

QUESTECH

... Effectively Ahead

Questech Limited, Eastheath Avenue, Wokingham, Berks. RG11 2PP
Telephone : 0734 787209 Telex : 848976 QESTEC G Fax : 0734 794766

* Patents approved and granted.

Developments at SIGGRAPH

(continued from page 8)

Arts. The processor is an add-in card that is designed to enhance the performance of the company's RenderManager 3-D modeling, animation and rendering package. Comprised of ten 25 MHz processors, the card, according to Digital Arts, increases rendering performance by eight to ten times that of 486/33s. For more information on Digital Arts, circle **Reader Service 47**.

Alongside announcements it has begun shipments of its Video F/X Plus desktop post production system, Digital F/X showed new Video F/X TapeMaker software for Adobe 2.0. The TapeMaker software allows Adobe Premier users to create full-resolution videotapes from their QuickTime movies by converting them into a Video F/X edit decision list that can be automatically assembled to videotape on a Video F/X system. For more information on Digital F/X, circle **Reader Service 132**.

Premiering at Xaos Tools was the Pandemonium special effects and animation package, which runs on Silicon Graphics computers (PC versions are promised in the near future) and creates all effects—vortexes, brushed art, water effects and many others via a menu-driven user interface. A Utilities package provides access to effects such as color correction, image resizing, blur, sharpen, emboss, alpha compositing, chroma and luminance keying and others. For more information on Xaos Tools, circle **Reader Service 12**.

And, if consoles were your need this year, Winsted Corp. was on hand to promote its broad line of computer, video and graphics consoles and desktop video workstations. The company's range of furniture is designed to accommodate any level of user. For more information on Winsted Corp., circle **Reader Service 26**.

Taking control

Among new options and features for its established DQ-Animaq Macintosh video controller, Diaquest unveiled at the show the DQ-422+ PC board level serial video controller and the software-only DQ-232 for RS-232-controlled recorders. The DQ-422+ controls two serial video recorders and has an on-board RS-170A sync generator. The DQ-232 interfaces to Sony's EVO-9650 Hi8 animation recorder, Sony's LVR series disk recorders, Panasonic's LQ-4000/TQ-3031F disk recorders and Pioneer's rewriteable disk recorder. For more information on Diaquest, circle **Reader Service 38**.

From Chyron Graphics, a member of the Pesa Chyron Group, came the Centaur, a video adapter board for Silicon Graphics' Indigo series workstation (Indigo, XS or Elan). The Centaur supports digital and analog standards and interfaces with most video systems, including digital disk recorders, D-1 videotape machines, Betacam decks and virtually all analog video devices. It supports NTSC or PAL composite; RGB; Betacam; M-II; S-VHS; and serial 601. For more information on Chyron, circle **Reader Service 65**.

Another Pesa Chyron Group member, Aurora Systems, displayed its Liberty 2-D graphics creation software package. The package is compatible with other devices such as high-end 3-D systems, Macintosh, and other paint systems, and runs on several different hardware platforms. Liberty's features include more than 60 combinations of masking, an interactive

animation package, and output of graphic elements and animations to a wide range of devices. For more information on Aurora, circle **Reader Service 113**.

Lyon Lamb introduced the PC-VAS, a video animation controller designed for the PC graphics workstation. It is a plug-in circuit board that performs single-frame recording and frame grabbing from the PC to a wide range of standard video recorders (PAL and NTSC). Also on hand from Lyon Lamb was the announcement that its I-VAS VTR control board is now available on the Silicon Graphics IRIS Indigo workstation. For more information on Lyon Lamb, circle **Reader Service 9**.

Start your engines

Well-known graphics player, Truevision, was not to be missed at SIGGRAPH. The company showed its VideoVGA 16P PAL graphics engine, a VGA-to-video graphics engine that also provides video pass-through, video overlaying and color keying. The company also demonstrated the 1024-32 graphics engine, a card that allows Windows graphics applications to run in high-resolution true color. Finally, Truevision showed the Horizon/1280 graphics engine for displaying high-resolution, true color images and manipulating video images using the high-speed HorizonBus. For more information on Truevision, cir-

cle **Reader Service 105**.

It was a busy SIGGRAPH as well for TDI (Thomson Digital Image America). The company released version 3.0 of its Explore and TDImage software, both of which feature Interactive Photorealistic Rendering, a new rendering technology. Also introduced from TDI were: TDI Dynamics, a program that allows users to deform and animate objects according to natural and physical forces; and Wrap-Styler, a TDImage software option that offers the ability to map realistic materials onto complex 3-D surfaces. Rounding out TDI's product announcements was Skeleton Editor, a character animation tool that integrates with TDI's version 3.0 Animator and Professional Animator products. For more information on TDI, circle **Reader Service 127**.

Parallax Graphics, a maker of video graphics hardware and software for UNIX-based workstations, announced its support for "JPEG Movie," a digital video data type running under SunSoft's ToolTalk Media Exchange protocol. Using Parallax's XVideo product, users can create JPEG movies, which are an open file format that includes JPEG images that are time-synchronized with SPARC audio. For more information on Parallax Graphics, circle **Reader Service 134**.

Autodesk demonstrated its newest version, Release 2, of 3-D Studio. Intro-

duced last March, Release 2 provides new visualization tools and productivity enhancements for users of 386/496-based PCs. The company also showed Animator Pro, a suite of software tools used either for creating 2-D animations or adding them to multimedia presentations. For more information on Autodesk, circle **Reader Service 94**.

Making its first SIGGRAPH appearance was Tektronix. The test and measurement company showed its well-known VM700A video measurement set; the TSG 130A multiformat signal generator, the TSG 1001 programmable TV generator, and its line of vectorscopes and waveform monitors. Also highlighted by the company were the Avanzar board and VideoDesktop software. The Avanzar board provides studio quality video output to several digital and analog formats, runs on SGI systems, and provides Ethernet access to Indigos, PCs and Macintoshes. For more information on Tektronix, circle **Reader Service 83**.

IBM demonstrated the capabilities of its RISC System/6000 along with a new model of the IBM POWER Visualization System (PVS). The new PVS Model 4 server has increased memory and multi-user capability, and it supports parallel processing, disk arrays, high-speed communications and HDTV displays.

IBM also showed its Visualization Data Explorer software, which now runs on Hewlett Packard and Silicon Graphics workstations. For more information on IBM, circle **Reader Service 49**.

Hughes Readies Its DirecTV

by Frank Beacham

CAMBRIDGE, Massachusetts Quietly and methodically, in spacecraft laboratories to manufacturing plants to video edit bays throughout the world, hundreds of skilled specialists are now assembling what is expected to become the largest television network start-up in history.

DirecTV, the direct broadcast satellite service (DBS) being built by Hughes Communications of Los Angeles, California, plans to deliver more than 100 channels of entertainment programming to TV sets throughout the United States in early 1994.

It is a project so large and all-encompassing that ground-breaking new work is occurring in satellite communications, digital video compression, computer manufacturing, encryption systems and customer service technology.

High power birds

Two Hughes high-powered HS 601 satellites are currently under construction and the first is scheduled for launch on an Ariane unmanned rocket in December 1993. The second satellite will be launched in mid-1994, after the start of initial service.

A strategic alliance between Hughes and United States Satellite Broadcasting Inc. (USSB) enables this new satellite system to use all 32 licensed DBS frequencies at the 101-degree West longitude position.

Each satellite will carry 16 120-watt transponders. Employing circular polarization, the satellites will provide coverage over the entire continental United States.

Home receivers, consisting of an 18-inch dish and digital decoder box, will connect to the user's television set and telephone line. The lightweight dish can be user-installed on window sills, roof lines or railings.

The home receivers, to be initially sold through retail outlets under the RCA brand name, will be built by Thomson Consumer Electronics. News Datacom, a London-based company, is providing a "smart card" data encryption system. Initial retail price of receivers will be about US\$700.

"That little dish receiver represents about a \$70 million investment," said John E. Koehler, V.P. of telecommunications and space sector for Hughes. "The decoder is smaller than a PC, but if you open that box, inside there is a lot of computing power. It will be at least the equivalent to a high-end Macintosh, yet the whole thing is guaranteed to cost the consumer \$700 or less."

Once a consumer purchases the receiving equipment, there is a sign-on process that results in the receipt of a smart card. Once service begins, a huge range of choices is offered through an on-screen menu.

Programming will be provided free-of-charge, ad-supported, on a subscription basis, as a package of services, premium pay or pay-per-view.

And because the system delivers compact-disc-quality, two-channel audio it may also carry digital audio music services as well.

By selecting choices through a remote control, the user orders programming from a DirecTV service center through a modem in the decoder. For example, a subscriber may be offered a library of movies available for viewing. To watch a

film, the consumer simply selects the movie of choice on the screen menu and indicates the desired time of play.

"The point of this is to get to a world where what you want is what you see," said Koehler.

DirecTV will use an MPEG-based digital compression technology, provided by Thomson, to transmit multiple video channels through one satellite transponder. Compression ratios range from four-to-one for live video and eight-to-one for film.

Future compatibility

For the service to be compatible with future standards, DirecTV will have built-in compatibility with existing and advanced television formats including 16:9 widescreen NTSC and high definition.

"We needed flexibility to accept various HDTV schemes in the future," said Koehler. "We will be compatible with a variety of TV aspect ratios, formats, resolutions and so on. Obviously, there are limits to this flexibility because greater flexibility requires higher costs. The details of those trade-offs are being considered now in the final system design."

The size and complexity of DirecTV, said Koehler, can be better understood when one knows its cost. He cited \$200 million for each launched satellite, \$70 million for receiver development and another \$100 million for the construction of ground-based support facilities.

"Digital TV has lots of parts which have to play and come together at the right time," he said. "This is a big system with the risk and problems that a big system carries."

Tracking Shots in Video Productions

A classic example of great motion picture photography is Orson Welles' breathtaking tracking shot at the opening of the film "Touch of Evil." The camera, mounted on a Chapman crane, begins on a close-up of a ticking time bomb and ends—a tense three-plus minutes later—with a blinding explosion.

During this scene, Welles uses the slowly moving camera—along with a tense, pulsing musical score—to create anxiety, build suspense and cause us to live out every second on the bomb's ticker. The camera travels at a high angle, then descends and rises again, each time revealing characters and a town street about to be shaken by the explosion.

This legendary shot by Welles has much to teach today's videomakers. It offers a clear example of how the moving camera, when properly motivated and precisely controlled, can be a key to unique and compelling video images.

Amateur's signature

How many times today do we see the work of videographers whose idea of camera movement is to repeatedly zoom "in" and "out" on their subject from a stationary tripod? Though this kind of camera work may be essential in certain uncontrolled news situations, it has become the sign of an amateur at work on more sophisticated productions.

Several factors now make it easier, faster and cheaper than ever before to create powerful moving camera shots

be used in combination with each other to create a vast range of moving shots.

Dollies range in size from massive, steerable, motor-driven units to small, inexpensive, suitcase-sized portables designed for field video production. The camera operator sits or stands on the dolly as it tracks across a smooth surface or on pre-laid, railroad-style tracks.

Limited budgets

On low budget productions, any smooth-running, wheeled device can



by
Frank
Beacham

VIDEOCRAFT

serve as a camera dolly. Many successful dolly shots have been made from wheelchairs, baby strollers, shopping carts, toy wagons and bicycles. If the operator is steady enough, short tracking shots can even be made by hand.

Holding the camera steady is the biggest challenge of any tracking shot. Professionally designed gear makes it easier to achieve steady shots, but with enough time, tracking shots can be perfected with even the crudest equipment.

Tracking shots can be used with both stationary and moving objects. Because perspective changes with the movement of the camera, tracking the camera slowly around a stationary object allows the audience to discover, explore and get a "feel" or clear perspective for the mass, texture, form and

other characteristics of the object.

Moving subjects can be tracked with the camera by keeping the distance between subjects and camera the same.

A good combination

Veteran British camera operator and film director Ronald Neame teaches students in his film/video directing classes to combine the zoom lens with the tracking shot.

"All the zoom does is to magnify the scene. It looks very mechanical to zoom by itself," Neame tells students.

"You should never use the zoom lens unless you incorporate it with a tracking camera. I very seldom use a camera that does not move in some way," he says.

Neame cites a situation where an extreme close-up is required of the subject, but there is not enough time to fully track from a full length shot into the close-up. "In this case I zoom at the same time as tracking. That covers up the zoom. The mechanical effect is disguised."

Up and down

The crane—or a smaller jib arm—is used to move a camera up or down for panoramic, elevated shots. Most also

with a single operator, are now available for video production in the field.

For low budget videographers, makeshift cranes are easily devised. Escalators, elevators, forklifts and "cherry-picker" (or extendable) arms can be put to work to move the camera.

For those wanting to revisit childhood, a wooden "see-saw" (effected with a plank and saw horse) can even be used as a suitable crane. Just have the camera operator lie on one end of the board with the camera and have an assistant counter his or her weight on the other end of the board. As the weight is shifted, the camera can be raised or lowered.

Shots made from cranes often result in dramatic, sweeping images that elicit specific audience responses. It is especially important for the videographer to use crane shots with reason and motivation.

Another way to move the camera and disguise a zoom is by combining a pan and zoom.

"Let's say you want to pan from one figure to another figure, to another figure and to another and keep them all in a close shot," filmmaker Neame proposes to his students. "You want to make them all the same size but they are all at differ-

Through camera movement, the videographer can make three-dimensional images and create dynamic, high-impact television programming.

A zoom lens—with its continuously variable focal length—cannot make a successful moving shot.

during video productions. Today's cameras and camcorders are smaller and lighter than previous models. A new generation of portable camera support gear designed for video production has appeared on the market. And improved compact zoom lenses and accessories are available for every camera.

A zoom lens—with its continuously variable focal lengths—cannot make a successful moving shot. By simply zooming in and out from a stationary position, the camera operator is changing the angle of view of a scene without changing perspective. This is why the resulting images often seem dull and two-dimensional.

On the move

The perspective of a scene can be altered only by physically moving the camera. Through camera movement, the videographer can make three-dimensional images and create dynamic, high-impact television programming.

Horizontal to/from camera (tracking) work is usually executed with a movable dolly. Vertical, up and down movements (booming or craning) are accomplished with a crane or jib.

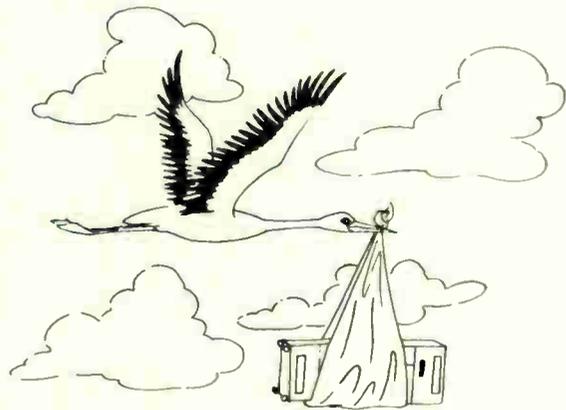
Dollies, cranes, jibs and zoom lenses can

allow sideways motion as well. Small cranes are often found in television production facilities where additional height is needed over standard studio pedestals. Larger hydraulic cranes are frequently used for high shots during video coverage of outdoor events.

A new generation of small, portable jibs, offering the capability of crane shots

ent distances. You would zoom at the same time you pan the camera. The audience would never be aware that you had used the zoom."

Frank Beacham is a New York-based writer, director, producer. Contact him at telephone: +1-212-459-4946 or FAX: +1-212-873-9451.



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Odd Sounds in the Audio Mix

Completing your program has been an arduous task. Now all that is left to do is mix the various audio tracks, and you can deliver your complete master.

The audio mix should be a relatively simple process of balancing the various audio tracks so that the proper relationships are obtained. Then you are finished.

The process can be that simple, but sometimes something mysterious occurs.

Rest assured, you are not alone if you have ever had the following experience, which progresses something like this: At the mix nothing unusual happens; the task appears to be proceeding smoothly. Once you are finished a copy is made for you to take with you. All is well until the next time you listen to the mix: It does not sound quite the same as it did when you last heard and approved it.

Unwanted noise

There may be a noise or sound that you do not remember ever hearing before. Maybe particular audio elements in the mix seem too loud, or possibly there is something missing.

Unfortunately, the next time you view it you are probably not by yourself.

You may be at your office, a duplication facility, an on-line facility (repairing the slightly off-center title), or screening it with your client.

But something is wrong.

If you are lucky you can correct the problem before duplication or air. Pin-pointing the problem is not a modest assignment. After all, not everyone who hears the sound track may agree as to what the problem is or how it could have occurred.

The only thing that everyone will agree on is that something sounds "funny" or wrong.

You know it sounded fine when you listened during the mix at the studio; so what happened?

It is probably safe to assume that nothing was intentionally done to alter the mix. You have performed the obligatory task of checking other dubs and listening to the tape on other monitoring systems. Eventually

you return to the mixing studio to evaluate the situation with your mixing engineer.

Maybe whatever the problem is sounds OK when you hear it again back at the mixing studio, maybe it does not matter. The point is that it sounds different outside of the studio. What is it that caused all of this aggravation and, more importantly, what can be done to prevent it from reoccurring?

I think it has to do with the speakers through which you are listening, the room in which you are listening and the volume at which you are listening. Also closely related to this situation is the choice of audio engineer or mixer.

In order to arrive at a mix with which you are satisfied, there must be proper audio monitoring facilities in place. If you cannot listen to the mix properly there is little chance of achieving a tastefully balanced audio track. The choice of accurate audio monitors (speakers) properly installed in a suitable listening environment is the only way you will have a chance at success.

Speaking up

Of course, no one speaker is best for all types of programs.

Various audio engineers and mixers have an assortment of speakers that they believe will facilitate arriving at an accurate audio balance. But the speakers do not make the mix; you do. Speakers can aid in achieving a balanced mix by providing a true representation of what is actually on tape, but you must decide what to do with the information they furnish.

For instance, I would not suggest mixing the music that is intended to be played as underscore for use in a television drama on bi-amped, multi-element, giant-sized, specially modified speakers. The resulting mix will not sound the same way when you hear it on the air as it did when you heard it in the mixing studio. So why bother mixing on such a system?

Alternately, I would recommend mixing in stereo, while monitoring (listening) on a small mono speaker at a moderate to

low level. This will not only allow you to attain a balance that you will be much happier with when you hear it on the air, it will in fact actually force you.

Listening to sounds

Everyone hears audio differently. What may be too loud to one person may be just right to another. One may prefer to add high frequency equalization to a particular audio track, while another might think this makes the track sound as though it needs low frequencies added to it.



by
Ken
Hahn

AUDIO FOR VIDEO

Loudness is a relative term and balancing audio tracks is a process that constantly involves making judgments. If a sound is considered to be too loud, this determination is based on an aural comparison of the sound (or sounds) which occur before, after or simultaneously with it.

Because this aural comparison proceeds continuously through the mix, a high degree of concentration is essential to permit a consistent audio balance.

Frequency (highs and lows) and level (loud and soft) cannot be treated as separate and distinct qualities. Because of the way humans hear, we are most sensitive to middle to upper-middle frequencies.

Because of our sensitivity to sounds that are in this range, they may appear to be louder. The choice of an appropriate speaker now becomes more evident, for without the correct speaker an appropri-

ate decision cannot be made.

You should also recognize that it is the combination of speakers and environment that allows the mixer and you to make judgments that will relate or translate to the speakers and environment of your audience. It is imperative that those persons responsible for making decisions at a mix are not and do not allow themselves to be distracted. Telephone calls and extraneous conversation without the persons not immediately involved are a deterrent to facilitating an efficient and acceptable audio balance.

A quiet, comfortable listening room is essential. This requires the minimizing of noise from air-conditioning, cooling fans on equipment and general equipment-associated noises. If the ambient noise levels in the mixing studio are excessive, certain frequencies will be masked. Attempting to achieve a proper audio balance in a noisy environment makes mixing a strenuous task because one's ability to concentrate is taxed.

Limiting the audio mixing decisions to a few qualified persons is also advisable. Others can have opinions and make suggestions, but assigning the major decision-making duty to a limited number of persons at least permits continuity. Too many opinions can be counterproductive and can frustrate and confuse those persons trying to accommodate all of the suggestions.

Trust your friendly mixer

The last advice I can offer is to trust your mixer. Assuming you feel comfortable that the people behind the mixing console are qualified, you should let them do the job you hired them to do. Their job is to mix audio. They earn their living mixing. If you have chosen the right person, he or she should be capable of providing you with a variety of alternatives to any circumstance that may arise while mixing. Your mixer is a trained professional who mixes audio every day, aware of what can happen to audio tracks that he or she mixes after it leaves his or her hands.

Your mixer will do everything to anticipate possible problems before they occur. You must ultimately decide what it is that you want to hear, but it is the mixer's job to deliver it to you.

How the mixer accomplishes this task is what I consider to be part of the art of audio mixing. There are a variety of styles and techniques to mixing audio, often rendering similar results.

Finding a mixer whose techniques, work habits and personality are compatible with yours, and one in whom you have confidence and are comfortable with should be dealt with long before the mix begins.

Selecting the appropriate mixer can dramatically increase the chances of generating a quality mix.

In order to facilitate a good audio mix certain primary concepts are recommended. The underlying premise is to simulate the end listener's environment. The choice of appropriate speakers installed in a quiet, comfortable room is recommended. Unnecessary distraction and ambient noise should be kept to a minimum. Lastly, I recommend you employ an experienced audio mixer.

I hope that by following these suggestions your mixes will be more consistent and contain fewer "funny"-sounding surprises.

Ken Hahn is co-founder of Sync Sound in New York and has received numerous awards for his work. He can be contacted in care of TV Technology.

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When to Solicit Staff Member's Input

Knowing When to Ask for Your Staff's Input on Hiring Decisions Can Help to Make Your Job Easier

I always advocate (and usually practice) the solicitation of input from others on hiring decisions. Often, I feel it works to my great benefit. Sometimes it creates more trouble.

Recently I read some guidelines from a newsletter I receive called "Working

Smart." The guidelines address soliciting staff input on hiring decisions, and I believe using its suggestions can raise your (and my) success in hiring staff members.

date but suggest you go carefully into the job description area. If your company already has established job descriptions, you may have bureaucratic and organized labor agreements to negotiate in order to make any changes.

You also may find that certain

Have staff members comment on what they think makes the candidate the most qualified for the job.

key (but less pleasant) elements of a job tend to be dropped out of employee-written job descriptions.

The guidelines suggest having key staff members meet with several top candidates. You may have them do this individually,

Staff or no staff?

The first task is to decide whether the particular job you are filling is likely to benefit from staff input. If the individual filling the job is likely to serve and/or work with a number of people on your staff, it is probably a good idea.

However, if technical expertise is paramount in the job, and if you are in the best position to judge such expertise, then there is not much point in soliciting staff input.

In fact, asking for staff input when you are not going to use it will probably be harmful. You do not want to acquire the reputation of someone who asks opinions just to be nice and then ignores them. You will be more successful explaining why you are going to make the decision by yourself.

But are you the best person to judge a prospective worker's technical expertise? I know when hiring a director I felt I knew what the responsibility of a director is. But the people who had to do it knew better. So we used to have the directors as a group watch resume tapes with the headset audio on one track.

We got a lot of good feedback on the candidate's skills, and it fostered some discussion about our own booth procedures.

Work ahead of deadline

The guidelines I read suggest you solicit staff input far ahead of the hiring process. Ask key staff members their opinions about who the ideal candidate would be and why. Ask them to write a job description.

I fully agree with asking for a description of the ideal candi-

move toward subject you think inappropriate, you can redirect the conversation.

In taking feedback from those attending the sessions, I think the guideline information offers its most valuable suggestion: You do not want to take a vote.

Even if you do not take a formal vote, an informal one can take place if you allow the group to criticize the individual candidates. Instead, ask them to confine their comments to the positive: Have staff members comment on what they think makes the candidate the most qualified for the job.

Better yet, the guidelines suggest the responses should be written rather than spoken. This way the evaluators are less likely to be influenced by their co-workers' remarks. As an alternative, you could meet individually with those who have participated.

If everyone in the group is against a candidate, you would best not hire that person. You have implied that commitment by asking for staff input in the first place. Anyway, how smart would it be to hire someone no one else wants?

The reason for not allowing a vote or negative comments is so you can avoid having

one or two staff members take a strong public stance against a candidate. If that candidate were later hired, it would help reduce the risk of bad feelings or embarrassment.

The guidelines suggest some additional ways of garnering staff input. They include asking



by
Craig
Johnston

PRODUCTION MANAGER

but the guidelines suggest you do it as a group.

The sessions are structured this way. Staff members in the group introduce themselves, describe their jobs, and then explain how they view the job for which the candidate has applied. When all the staff members have expressed

The reason for not allowing a vote or negative comments is so you can avoid having one or two staff members take a strong public stance against a candidate.

their views, the job candidate is asked to describe how his or her own background and goals fit the job.

Since you will do the hiring, you should sit in on the group. Doing so will have two benefits.

First, you can observe whether a particular candidate is likely to work well with the other employees.

Second (a defensive note): If the group discussion begins to

the receptionist who greeted them to rate the candidates' congeniality or ability to express themselves. Others who might be able to share similar insights would be staff members who show candidates around the office or have contact with them in some other way.

Assessing your own staff

There are added benefits to this process of soliciting staff

input. One benefit the guidelines suggest is that you can assess how your present employees handled the responsibility. Were they objective? Did their own prejudices interfere with an honest assessment of the candidate's potential? These insights can be valuable to you as you seek to make future assignments among your staff.

Finally, and wisely, the guidelines remind you to explain to your staff the reason for hiring

the candidate you did. And remember to thank them.

"Working Smart" is a semi-monthly newsletter available by subscription from the National Institute of Business Management, 1328 Broadway, New York, NY 10001 USA. Each issue contains a half-dozen or so short articles, which I find valuable, and often tweak something in my own thinking.

Craig Johnston is a frequent contributor to TV Technology.

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Making Your Set 'Safe' For Scenery and Light

We are well aware of the "safe area" of the television picture. We know that our picture on the control room monitor will lose some information around the edges when it is transmitted to the receiver at home. We simply accept the restriction as a part of the way things are in our business.

There is another restriction that is not as well understood by everyone. There is an area within the walls of a TV studio that is "safe" for scenery. It is defined by the lighting grid rather than the actual walls on the ground plan.

It is further defined by the often overlooked need for lighting space around the scenery for the exterior view through windows and doors, and entrance hallways behind doors and archways. (All the money spent on an elaborate living room or office is wasted if the view out of the window is not convincing because there is not enough space out there to avoid shadows of trees on the backdrop.)

Be real

Just as the plan of the main room is carefully drawn to scale, the background elements must be included with realistic distance. We must face the fact that cameras will include the window in shots from several angles. We must provide a wide enough and consistent background for all possible angles. This extends the necessary space even more.

The cyclorama or the painted backdrop and the scanamural or the Duratran transparency must be parallel to the plane of the window to retain an even field of light. We may have to rotate the entire set to make this happen if we are using the fixed cyclorama as the background. This is easy to do on paper before the set is installed. It is costly and time consuming when we are on camera.

Everyone must understand the space needed to light a cyclorama. The goal is to light the cyc evenly so that we do not see a hot top or a hot bottom on the wide shots. Cyc strips from most manufacturers have eccentric reflectors that force more light down than straight out. They work best when the front of the light is parallel to the cyc. This

This destroys the blend from one light to the next and results in spikes of overlapping lights (at the bottom of the cyc when we are lighting from the top and the reverse from the bottom). Space between the set and the background is, again, the answer. There is no substitute!

It is difficult for producers, directors and facility management to face the fact that a studio that seems so big when it is empty shrinks as soon as scenery is properly installed. A living room that is 20 feet wide and 15 feet deep may require 50 feet by 40 feet of space. Add another 20 feet across the front for cameras and we soon see that we may be able to fit two sets in a 60'x100' studio.

If you try to fit six sets in this

It is difficult ... to face the fact that a studio that seems so big when it is empty shrinks as soon as scenery is properly installed.

can happen when the cyc lights are six to eight feet from the cyc.

Make space

If the cyc lights have to be mounted closer because the scenery is in the way, the tendency is to tilt the lights down.

space, you had better hire the entire crew of a long-running soap opera to do the show. The experience, ingenuity and teamwork of the people in all departments of soap opera production is unique. It takes months of doing the same show every day to develop such teamwork.

An even field

Lighting for pictorial backgrounds—either hand-painted or computer-painted scanamural—requires an even field of white light from top and bottom. These exteriors will seem more realistic if we add a pale daylight blue to the lights. A second circuit of amber may be needed if we have to suggest sunrise or sunset.

Night scenes are not just daylight scenes with blue lights on them. If the scene is urban, windows, street lights and porch lights all light up as well as a blue wash for some detail. These practical sources will require that the drop be opaqued on the back, leaving the areas open for windows, etc. It is an expensive fact that, if you want a night scene, you should buy or rent a night scene with the light already in it.

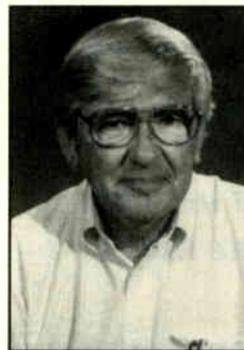
Unfortunately, mural painting by hand is a disappearing art. There are stocks of painted drops available for rent. There are also stocks of Duratran photographic scenes for rent. Duratran is a trademark name for the

photo transparencies printed for extremely diffused backing. Bare light sources behind the Duratran cannot be identified as "hot spots."

I have seen a Duratran being used on a feature film that was backlit with R-40 photofloods mounted on a giant wooden rack that allowed one flood every two feet both ways. Such a budget item is unlikely to rate approval in our business. We can use open scoops and broads

that we have no control over the dark areas that usually occur at the bottom of the image. These dark areas are dramatic if we see the entire picture but are likely to occur as muddy nothings behind seated faces on most of our camera shots.

We may be able to lower the drop with some of it rolled up on the studio floor to bring identifiable detail in line with our close-ups. As we lower the drop outside our window, the room we are in will seem to be on a higher floor of the building. However, this may not matter if we have audio introduce disappearing screams as an actor steps out of the front door! (Alternatively, we can add a hallway with an elevator.)



by
David M.
Clark

FOCUS ON

LIGHTING

Keep in touch

All of this scenic business may not seem to have a lot to do with lighting. What it illus-

trates is the necessary close contact between the lighting person, the scenic designer and the director in the preparation of any show, no matter how small.

Actually, most TV shows do not require a realistic background. "Decorative nothings" is the description of most small sets for conversation or news. The scenic and lighting designers have to come up with something cheap that looks expensive, something in good taste that is pleasing to the eye but not more attractive than the faces in front of it. Some puzzle!

The scanamural process

Another photographic/mechanical approach to a scenic background is the computer-printed scanamural process. The computer scans a photo or transparency and activates a four-color jet printer that sprays ink on any material that can bend around a large drum. The material of choice for TV is usually muslin, which is available in very wide, seamless pieces. The

result is a true matte finish drop that can be hung just like a painted drop or a cyc.

As in the Duratran process, the quality of the blowup is only as good as the quality of the small original.

An advantage with scanamural is the possibility of retouching the mural. A local artist can make alterations using pastel chalks to lighten or darken certain areas. Scanamurals are front lit from top and bottom.

Actually, most TV shows do not require a realistic background. "Decorative nothings" is the description of most small sets for conversation or news.

A frequent problem with backdrops based on photographs is

ties within the budget can be realized and the impossibilities recognized early.

I have often written that the joy of lighting comes most often from imagination and a willingness to work hard.

David M. Clark is lighting director for Imero Fiorentino Associates in New York City, New York. He has received numerous awards for his work, and he is also a creative graphic artist, photographer and scenic designer.

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PROBLEMAS CON MOVIMIETOS

Hay dos escuelas contradictorias en el tema de los trípodes. La primera nos dice que la cámara no debe ser siquiera prendida hasta que no esté montada y asegurada en su base de tres patas. La segunda nos enseña que el trípode es solamente un impedimento para hacer un buen relato visual o un accesorio anacrónico que debe ser abandonado, a menos que esté Ud. copiando o haciendo una entrevista de una hora, sentado y con tres luces.

Con el peso al hombro

La llegada al mercado de las cámaras livianas y del video casero, las exigencias de presentar las noticias inmediatamente, los reporteros que no quieren esperar y la popularidad creciente de la filmación de videos "verité," que ha sido usada para programas basados en filmaciones en vivo de incidentes policíacos, ha hecho necesario que los camarógrafos se "echen el peso al hombro (la cámara)."

Algunos fotógrafos del periodismo cambian del trípode al hombro y viceversa varias veces durante la filmación de un programa. Muchas veces, en una sencilla rueda de prensa se usa el trípode para filmación de las cabezas y se pasa a la cámara en el hombro para tomas panorámicas y para cortes.

Pero la filmación sin trípode requiere más que solamente echarse la cámara al hombro. Captar video que no tiemble, con una cámara al hombro, es más difícil de lo que parece.

Posición perfecta

El ser humano es un bípedo, y por falta de una tercera pierna es menos estable que un trípode. Este pequeño error de diseño puede Ud. corregirlo convirtiéndose en una roca humana. Párese con los pies a la misma distancia de los hombros y en la misma dirección. Su peso debe distribuirse igualmente entre los dos pies, las rodillas deben estar

relajadas y las caderas y la pelvis echadas hacia adelante. Esta posición para filmar o grabar el video es fácil de mantener, prevendrá que se mueva como una hoja al viento y le evitará problemas de espalda.

VIDEOGRAFIA

por John Premack

Una vez que esté en esta posición, debe Ud. concentrarse en la cámara. Primero encuentre el punto de equilibrio que le permita mantener la cámara sobre el hombro derecho, sin sostenerla con la mano. Esto le permitirá relajar los músculos del brazo y de la mano mientras está operando la cámara. Los músculos tensos y cansados de mantener la cámara sobre el hombro se rebelarán finalmente y los movimientos correspondientes se transmitirán a las imágenes que Ud. está tratando de filmar o grabar.

Manténgala firme

Claro está que no es únicamente la fatiga muscular lo que hará que las tomas tiemblen: los movimientos intencionales, aunque solamente sea el movimiento del dedo al operar el brazo oscilante del "zoom" o el movimiento para apretar el conmutador del iris, pueden mover la cámara de manera notable. Desde el punto de la cámara, su brazos son palancas que convierten movimientos pequeñísimos en terremotos.

Si elimina los movimientos de los brazos, su posición será más firme y eliminará las molestias causadas por un video tembloroso. Apriete los codos contra el cuerpo en vez de dejarlos aletear. Ya que cualquier movimiento con la mano derecha va a ser transmitido directamente a la cámara, trate de no usarla

para nada—convértala en un soporte para la cámara únicamente. Relaje los músculos del dedo. La parte inferior de la cubierta protectora del lente debe descansar en la palma de la mano en vez de sujetarla con los dedos. Cambie la distancia focal estirando la mano izquierda por encima de la cámara o use un dispositivo opcional con mango de pistola que coloca las funciones para activar el "zoom" y la grabación al alcance de su dedo pulgar.

Lecciones de respiración

Para asegurarse de que Ud. y su cámara trabajen en una armonía bien equilibrada, es importante que aprenda a controlar la respiración. Respire profundo cuando esté listo a filmar o grabar, exhale parcialmente y deje de respirar. Si la toma demora demasiado y no puede Ud. dejar de respirar tanto tiempo, respire suavemente usando el diafragma. Esta respiración poco profunda no produce movimiento en las costillas y elimina otra fuente importante de movimientos innecesarios de la cámara.

Por supuesto que todos los trucos del mundo, a menos que Ud. se convierta en una roca humana, no son garantía absoluta de que sus tomas a mano no van a inducir un caso de mareos. Los vientos fuertes, los lentes largos y las sesiones nocturnas de conferencia en el bar del hotel pueden conspirar para que Ud. necesite agarrarse de una mesa cercana para mantener el equilibrio mientras mira por el visor.

Cuando el edificio de la esquina comienza a saltar, es el momento para sacar el trípode o convertir el hombro en un trípode temporal. Recuéstese contra algo sólido: el marco de una puerta, una pared o un poste telefónico o inclínese hacia adelante y apoye ambos codos en una mesa, un mostrador o el techo de un carro.

Algunas veces la solución consiste en

bajar la cámara del hombro. Sosténgala en el regazo (método excelente para tomas aéreas desde un helicóptero pequeño) o colóquela en el suelo. He logrado buenos resultados con tomas con lente largo tomadas de improviso. Las he logrado de rodillas e inclinado sobre la cámara, utilizando piedrecitas como cuñas y ejerciendo presión vertical para mantener la cámara estable.

John Premack ha sido camarógrafo jefe de la estación WCVB-TV de Boston durante 17 años y cubre las noticias diariamente. Su teléfono es el +1-617-433-4199.

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Pixel 3-D: An Amiga Role Modeler

Amiga users are rather spoiled by a large selection of high-quality software for 3-D modeling, rendering and animation. While advanced 3-D animation is available on the Macintosh and IBM compatible platforms, the price tags (anywhere from US\$2,500 to US\$10,000) limits 3-D animation to those few elite with access to their boss' money.



by
John
Spofford

COMPUTER GRAPHICS

Amiga 3-D programs generally sell for less than US\$500, allowing anyone to tinker with this new technology. Better yet, those of us who are serious about 3-D animation can afford to purchase several Amiga 3-D programs and combine the best features of each.

Moving 3-D objects from one Amiga 3-D application to another used to be a problem. Unlike the Amiga's IFF standard for 2-D bit-mapped pictures, there is no universal IFF standard for 3-D objects. Each program has a different method of creating its wireframe objects and storing the geometry as a computer file.

Because 3-D is common on the Amiga, software has been developed for 3-D conversion. The software I use for these conversions is Pixel 3.0 version 2 from Axiom Software. The utility, which sells for under US\$100, is indispensable for Amiga 3-D work.

Pixel 3-D was originally developed to automate the process of "tracing" and converting a 2-D bit-mapped picture (such as a scanned or digitized logo) into a 3-D model. Pixel 3-D has built-in extruding and sweep functions that actually make it a "generic" modeling program. Pixel 3-D cannot render models, however, and saves its models into a choice of five Amiga formats. Pixel 3-D can also load these five Amiga formats and perform conversions between them.

What is your favorite?

I am often asked: "Which Amiga 3-D modeling and rendering software is the best?" It is a question that leads to heated discussions. I find that adherents to one 3-D program or another tend to be fanatics.

But fierce owner loyalty is understandable, if you consider that 3-D modeling is notoriously difficult to master. I have (finally) reached a point where I can build almost anything I want using my favorite 3-D program, Draw4D-Pro from Adspec Programming.

This learning process has required a year of use. All those hours have been worth it, though, as Draw4D-Pro is suited for both my 3-D video animation and 2-D illustration needs. I am literally earning my living with this software. Given this investment in time and energy I naturally

have strong opinions about my favorite 3-D program.

My personal opinions aside, I would diplomatically suggest that the best Amiga 3-D software is whatever program you take the time to fully master. In other words, ignore the fanatics, pick a program that does the job, and practice, practice, practice!

If you are the owner of a Video Toaster system, by all means use Lightwave3-D. Lightwave is an excellent program, and, by virtue of the fact it is bundled with the Video Toaster, it will enjoy long-term support. It is well worth the effort to become an expert at Lightwave.

On the other hand I have been involved with Amiga 3-D since its inception, being a "Turbo Silver veteran." I purchased Draw4D-Pro because of its ability to produce real-time animations with Digital Creations' DCTV compressed video display device. I was also pleased to discover that Draw4D-Pro has a well written (and understandable) manual and Adspec Programming provides excellent customer support. This is important, as customer support makes a big difference in getting through a difficult learning curve.

While I have mentioned the three Amiga 3-D programs I have personally used, there are at least half dozen other Amiga 3-D programs in use.

The one to learn

You only really need to learn one modeler: Pixel 3-D makes it possible to convert your files and gain access to the capabilities of most popular Amiga renderers. In other words, if you prefer the modeling interface in Imagine, but need to create an animation in Lightwave, Pixel 3-D will let you do that. Better yet, many pre-made 3-D objects can be purchased or already exist in the public domain. If you are facing a tight deadline, pre-made objects are a big time saver. Conversion via Pixel 3-D makes these objects available to your favorite 3-D program, regardless of their source.

At the controls

Pixel 3-D has a powerful user interface packed into a single screen. The lower third of the screen contains many buttons (some of which open sub-menus) controlling every program function. The upper two-thirds consist of a window that displays a loaded 3-D object.

This display window shows objects in true perspective. Objects can be rotated on all three axes by the mouse or by arrow gadgets on the control panel.

It is also possible to zoom in or out via these control buttons. A total of six display option buttons can be used singly or in combination to allow a wireframe, solid, shaded, shaded wireframe, color wireframe, color solid, color shaded, or color shaded wireframe. As you can see, the program is very flexible. This detailed and versatile display enhances the difficult business of creating or modifying 3-D objects.

Pixel 3-D will load and save the following Amiga 3-D formats: Lightwave, Turbo Silver, Imagine, 3-D Professional, VideoScape and Sculpt. Sculpt 4-D is an early Amiga program that has been ported to the Macintosh, and while it is very popular on that platform (at 10 times the price), the Amiga version is largely forgotten.

However, a large library of Sculpt objects still exist in the public domain. VideoScape 3-D was one of the first Amiga 3-D programs and, while rarely used today, several 3-D programs—including Draw4D-Pro—can read and write VideoScape GEO format for purposes of compatibility. Progressive Peripherals & Software uses the 3-D Professional format for its 3-D software offering. Though supported by Pixel 3-D, Turbo Silver, from Impulse Incorporated, has been replaced by Imagine, a popular 3-D program with its own object format.

Besides these Amiga 3-D formats, Pixel 3-D can also save an Amiga object as a DFX file. DFX files are used in 3-D versions of AutoCAD (AutoDesk), a computer drafting program which runs on IBM compatibles. Many other programs can load DFX geometry (including most Macintosh and IBM animation programs) but the manual warns that these programs may not be able to read Pixel 3-D's file. This incompatibility is a well-known problem with the DFX format.

3-D from a paint program

Besides its ability to convert 3-D file formats, Pixel 3-D is also able to import bitmapped pictures (such as those created with Deluxe Paint) and convert them to 3-D structured objects. It does this by detecting and tracing the edges of objects. Pixel 3-D will import all non-HAM, non-24 bit, IFF bit-mapped images.

It is possible to extrude these converted

assigned by the renderer.

Due to differences in the way 3-D programs create their models, Pixel 3-D provides a variety of data modification tools. For example, Turbo Silver, Imagine and Sculpt objects are composed from three-sided polygons (triangles to you and me). VideoScape, Lightwave and 3-D Professional, on the other hand, allow objects to be constructed from complex polygons with four or more sides.

When converting a Lightwave object to an Imagine object, Pixel 3-D will simply split every complex polygon into triangles. It is possible to convert an Imagine object to a Lightwave object and leave it as a triangle. Unfortunately, this object will render very slowly in Lightwave. Pixel 3-D provides point and face reduction tools to simplify objects.

The face reduction tool can reduce coplanar polygons into complex polygons. What that means in English is simple: a cube built out of triangles would consist of 12 polygons. Face reduction would delete the triangles and build larger squares for the cube, bringing the polygon count down to six.

Other tools include the polygon flipping tool for manipulation of the point order of complex polygons. Due to mathematical reasons difficult to explain (even if I understood them), programs that use complex polygons assign numbers to each point of the polygon. These polygons must be numbered in the same order (generally clockwise) or the polygon will not render.

Besides its ability to convert 3-D file formats, Pixel 3-D is also able to import bitmapped pictures (such as those created with Deluxe Paint) and convert them to 3-D structured objects.

bit-maps to give them thickness. Extrusions can also be beveled along their edges. It is also possible to do color conversions, where a separate polygon is created for every color found in the bit-map. These conversion tools are great for a quick conversion of a scanned logo into a 3-D object, which can then be subsequently saved in the format of your choice.

A more complex bit-map conversion is spinning. Spinning will take a converted bit-map and spin it around a defined axis a defined number of degrees. While doing this operation in Pixel 3-D is straightforward, I prefer to spin objects in Draw4D-Pro. Many modelers, however, will find Pixel 3-D's generic modeling tools useful. The 2-D to 3-D conversion approach might prove easier for someone new to 3-D modeling.

New math

Pixel 3-D does an excellent job of converting 3-D object formats preserving the vertex, edge, face and color information of the original model. However, attribute information, such as shading and mathematical surface information are ignored. This is something to keep in mind if you create a model in one program and render it in another: attributes should always be

For example, converting an Imagine object, made from unnumbered triangles, to Lightwave, Videoscape or 3-D Professional will create an object with holes in it. You really do not need to fully understand this—Pixel 3-D has an "Order" option to display only those polygons in proper clockwise order. By using either the polygon flipping or double polygon tools, you will be able to see what you are doing as you eliminate those "invisible" polygons.

I recommend this program if you do a lot of 3-D work. Pixel 3-D is an indispensable tool to the expert, making it possible to use the best features of many Amiga 3-D modeling, rendering and animation programs. However, it will probably be more useful to the 3-D beginner, with its innovative 2-D to 3-D conversion and its ability to tap into libraries of pre-made objects.

For further information on Pixel 3-D, Version 2, contact Axiom Software at 1221 East Center St. Rochester, Minnesota 55904 (telephone: +1-507-289-8677), or circle Reader Service 22.

John Spofford is an AV specialist/videographer at Harvard Industries in Newfields, New Hampshire. He can be reached at +1-603-772-3771.

BUYERS GUIDE

Character & Effects

SoftImage Satisfies Red Sea Vision

by Arul Moorthy
Director, Computer Graphics
Red Sea Vision

SINGAPORE Red Sea Vision is a computer graphics facility that concentrates on complex animations involving 3-D characters, image warping and morphing for the video industry.

Originally founded as a mass video duplication facility, it has grown into a complete 3-D animation facility.

When it came time to invest in a 3-D animation system, I selected the SoftImage Creative Environment on the Unix platform.

SoftImage has a truly integrated environment. It has various functions, such as Model, Motion, Actor, Matter and Tools, that are available at the press of a func-

Lattice is another tool through which portions of an object can be moved.

Also available for most operations is Undo. This feature is useful to hide duplicates created by some of the modeling operations.

Put in motion

The Motion Module is one of SoftImage's more powerful tools. Deviating from the regular rigid object approach, SoftImage's Deformation, Lattice and Waves tools allow objects to be more flexible. Most of the SoftImage parameters can be animated, and each has an associated function curve. This curve can be modified in several ways, providing very good control over the animation.

Shape animation is possible either by changing the shape and keyframing, or creating and selecting keyshapes along a timeline. With the SoftImage Motion Module, I was able to animate a worm crawling over an object with highly realistic movement.

The optional Actor Module, which complements the Motion Module, is one of

is achieved through selective ray tracing, which also saves rendering time by eliminating the ray tracing of unwanted images.

SoftImage has many tools available for assigning material properties. With its 2-D texture mapping, multiple textures, bump mapping and reflection mapping, it is possible to achieve any kind of look that is desired.

Variety of textures

3-D Procedural Textures, which has many variables, allows the creation of various textures, such as wood, marble, clouds, fire, etc. However, I find it is time consuming to create texture during the rendering process, and the texture is not pasted on the object when the object moves. But there are ways to work around these problems.

Other features, like atmospheric effects and motion blur, are available as well. Motion blur is not particularly useful because it is extremely memory intensive. Depth of field is another noteworthy

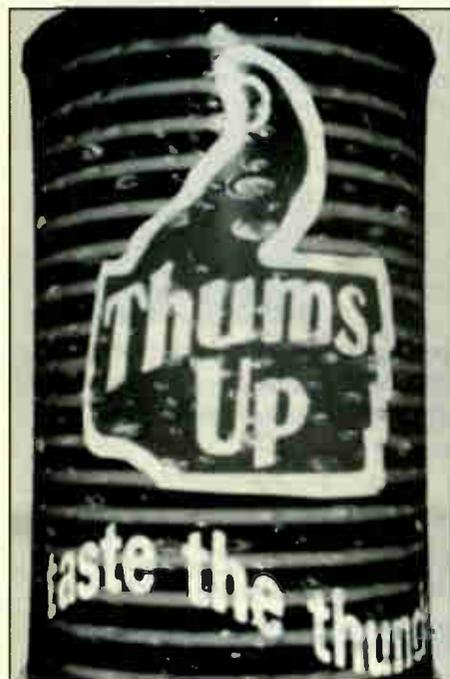
feature. Like the Motion Module, most of these parameters are animatable with an associate function curve.

One final module that we make good use of is Tools, which includes such things as Flipbook (where we can play back small rendered images in real time), file management functions and compositing.

In general, we have found SoftImage to be a very user-friendly system for animators who have an eye for realism when it comes to images and movement.

Editor's note: Arul Moorthy holds a B.S. degree in applied sciences and a post graduate degree in computer science and applications. He joined Red Sea Vision as a graphics animator and has animated more than 1,000 TV commercials and documentaries.

The opinions expressed above are the author's alone. For further information, contact Pierre Rinfret at SoftImage; telephone: +1-514-845-1636; FAX: +1-514-845-5676, or circle Reader Service 84.

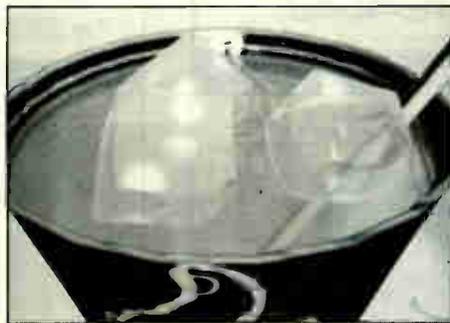


The SoftImage Creative Environment is central to Red Sea Vision's facility.

USER REPORT

the more interesting tools. The Actor Module has two main features.

The first is Inverse Kinematics, which allows the user to create hierarchical motion in a simplified way. This can be used to create a high level of hierarchy and set the preferred angle of rotation at each joint. Then, by moving the Effector (the final level), the complete chain can



be animated.

We use this tool to create complex animations, such as a man walking or dancing robots.

New dynamics

The other feature of the Actor Module is Dynamics, which allows the user to provide properties such as weight, elasticity, rigidity, etc., allowing the object to react to a gravitational force, for example. It also enables a moving object to collide with a static object, a feature SoftImage promises will soon be extended to two moving objects.

Unlike usual cold-looking computer images, SoftImage-rendered images are closer to more traditional animation. This

tion key. During the animation process, this fast access is very convenient when we are moving back and forth between various modules.

SoftImage renders the models through points, splines (lines connected by points), faces, polygons and patches (2-D surfaces). From the primitives (geometrical shapes), we can draw splines and then extrude, revolve or use skin commands to get a 3-D object.

Interestingly, some of the tools that are used for motion serve as modeling tools as well. Deformation, for example, is a very powerful tool that pushes an object through splines and patches. The object can be frozen at any position during deformation to be manipulated further.

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Korean Firm Chooses Liberty

by **Sung-Han Bae**
Executive Director
Computer Graphics Image

SEOUL, South Korea In May of 1992, I decided to start my own computer graphics business based on my past experience producing 3-D graphics for a Korean computer animation firm.

For a long period of time, I was willing to go anywhere to attend demonstrations, seminars and worldwide exhibitions and to talk to end users of computer graphics equipment that was not known to me. In this way, I would have a wide range of information for my final decision on new 2-D and 3-D systems.

Although I had a reliable financial backer, as a small, beginning company I could not afford to be involved in any

kind of trial and error in selecting these new systems.

After more than a year of study, I decided on Aurora System's Liberty 2-D software and Explore 3-D software. I had seen Liberty at NAB, KOBA and SIGGRAPH, and I had a private demo after KOBA that convinced me that Liberty would most closely meet what I had been looking for.

USER REPORT

The reasons I chose Liberty (and why I believe no other available system can best it) are numerous.

Unlike other systems, Aurora Liberty doesn't require separate, independent hardware. It runs on Silicon Graphics

hardware platforms—Indigo, Personal IRIS, Crimson and Power Series—after a simple installation procedure.

As a small production house and newcomer to the high-end 3-D market, I can most effectively use my equipment for 3-D or 2-D, depending on the requirements of the project. Furthermore, I believe the paint functions of the Liberty are superior to similar software available for SGI machines.

Needless to say, in evaluating a major computer graphics system, reasonable price and satisfactory output are the primary criteria.

But these are not the only considerations. I would never make a final decision without considering the attitudes and enthusiasm of the people who make, sell and maintain such a system.

Even though a system may have powerful features at the moment, we cannot expect improvements and further development if the company lacks sincerity.

On this point, even though I have known the Aurora people for only a couple of months, I am not reluctant to say that I am very impressed with their sincerity and enthusiasm.

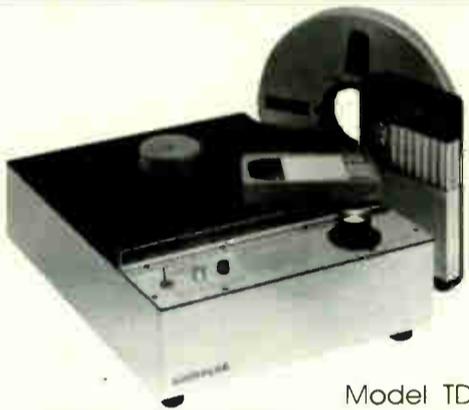
Editor's note: Sung-Han Bae is a graduate of the New York Institute of Electronics and is a member of the Korean Institute of Computer Graphics and the Korean Computer Graphics Association.

The opinions expressed above are the author's alone. For further information on the Liberty, contact Katcha Burnett at Aurora Systems: telephone: +1-408-988-2000; FAX: +1-408-986-0452, or circle Reader Service 77.

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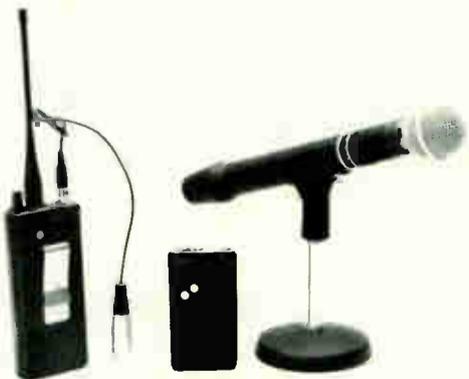
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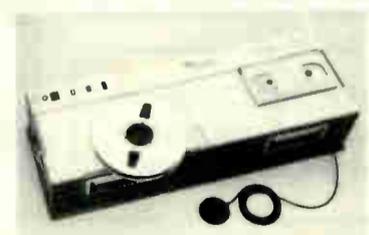
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EL HAL AYUDA EL ARTE GRAFICO

Por Roberto Martínez
Director de Trabajo de Postproducción
Telerey

Ciudad de México. Hace unos tres años, Telerey, una casa de trabajo de postproducción, creó la Red Multivisión, un sistema de 10 canales que brinda entretenimiento y noticias a los televidentes de la Ciudad de México.



Logotipo creado por HAL de Quantel

Multivisión también tiene dos canales, 1 canal deportivo y el canal infantil, que proporciona cobertura al país entero vía satélite. En septiembre agregamos cuatro canales nuevos.

Nuestro trabajo en Telerey incluye la creación de logotipos, promociones, gráficas (dibujos) y animación para todos los canales de Multivisión. Casi toda la animación es para promociones e IDs.

1 momento para modernizar

Cuando nuestro sistema gráfico original resultó insuficiente para satisfacer nuestras necesidades diarias, decidimos comprar un sistema más rápido con mejor calidad de imagen y fácil de usar.

Encontramos la solución a todos nuestros problemas en la NAB '92 al ver por primera vez el nuevo HAL de Quantel, un compositor digital hecho a la medida y totalmente dedicado a la composición.

Nuestro HAL fue instalado en julio y partir de esa fecha nos ha permitido trabajar de manera no convencional. Gracias a la integración de las actividades de postproducción, tales como cortes, desvanecimientos, composición en varios planos (multicapa), rotoscopia y dibujos de alta calidad con un interfaz amistoso para el usuario, HAL nos permite ahorrar tiempo en todos nuestros proyectos. Este ahorro lo pasamos a nuestros clientes, los canales de Multivisión.

Los artistas gráficos han alabado nuestra decisión de comprar el HAL y una de las características preferidas es la habilidad de ver los cortes reales en vez de solamente el bosquejo, durante la etapa de cortes y empates.

La composición en varios planos no requiere el uso de sistemas de color, de almacenamiento de vistas estacionarias y de editores. Todo el trabajo se hace en el nuevo HAL.

Libertad de movimiento

HAL brinda todos los instrumentos esenciales para la composición de alta calidad requerida para la televisión, incluyendo efectos digitales, gráficos, control VTR y un audio integral y de alta

calidad para la transmisión.

La facilidad para el uso es impresionante. Con un bolígrafo de luz y una tablilla, nuestros artistas pasan libremente de una operación color o de composición a otra.

En la creación de logotipos animados o de promociones para programas, el primer paso consiste en pintar el logotipo y los pedazos individuales que se van a usar. Por ejemplo: si se requieren diez segundos de video de fondo o de luz, se carga el dispositivo y se comienza la mezcla.

Una vez se ha creado el fondo, se agregan las diferentes capas hasta lograr el dibujo o diseño final. Algunas veces partes del logotipo se cambian de lugar y la animación se mueve hacia el fondo, animando el canal deseado.

También es posible agregar información específica, como el nombre y hora de presentación del programa.

Antes de adquirir el HAL, la falta de tiempo no nos permitía preparar este tipo

de promoción. Crearla nos habría tomado de siete a ocho horas y no habríamos logrado la calidad de imagen necesaria para transmisión. Ahora podemos producir una promoción multicapa de 30 segundos en cuatro horas.

El HAL es compatible con nuestro

INFORME DE LOS USUARIOS

equipo en uso y por ser digital podemos pasar del equipo D-2 en nuestras dos instalaciones para editar al equipo D-1 del HAL manteniendo la alta calidad.

Apoyo al producto

Por ser el compositor HAL un producto nuevo en el mercado, el apoyo brindado por el fabricante fue considerado cuidadosamente antes de comprarlo. Quantel brinda este servicio de apoyo.

Aparentemente, el compositor HAL puede manejar cualquier trabajo de composición digital y tiene la flexibilidad necesaria para permitir el agregado de opciones futuras.

Durante sus quince años de servicio, Telerey ha sido pionera en la adquisición de equipo novedoso. Fuimos los primeros en ofrecer telecine 4:2:2 de Rank Cintel y

ahora somos los primeros en integrar el sistema HAL a nuestro equipo en línea y al proceso de animación.

Con nuestra dedicación a la tecnología moderna, continuamos dando apoyo al desarrollo del trabajo de postproducción en México.

Las opiniones arriba expresadas son las opiniones personales del autor. Para más información referente al sistema HAL, comuníquese con Mark Grasso en Quantel: Teléfono: +1-213-962-6198; FAX: +1-213-962-5840; o marque el No. 44 del Reader Service.

CINEPIX Picks Aurora

by Shin-Hee Cho
President
Cinepix

SEOUL, South Korea CINEPIX was established in December 1989 as a specialized computer videographics production house serving the broadcast and industrial video markets in Korea.

Our main hardware consists of a Silicon Graphics 4D/35TG and an Indigo, and we output via the SGI VideoFramer to Beta-cam.

USER REPORT

Initially, we produced mainly high-end 3-D graphics, and could manage 2-D using the Adobe PhotoShop on our Macintosh II fx connected to a Network File System (NFS). However, since the end of 1991, project supervisors have been looking for a way to combine real-world video with computer graphics sources.

It was this requirement that led us to the Liberty software package by Aurora Systems.

As the role of 2-D gradually increased, we tried to use the DVE in a local post production house for 2-D compositing, but the results were unsatisfactory. While we could have used a Quantel Harry for higher quality results, its per-hour cost exceeded our production budgets. Besides, there is only one Harry available in Korea.

Photoshop on the Mac has various 2-D functions, but its rotoscoping has problems, and it was too slow for our requirements.

We decided to allocate \$100,000 (U.S. dollars) for a new, more powerful 2-D

paint and animation system. We assumed this system would be a turnkey system, with \$50,000 allocated for software.

Our criteria for the new system were as follows:

- File compatibility with our SoftImage 3-D system
- Various distortion filter effects
- Powerful 2-D animation functions
- Easy-to-use user interface
- Interface with digital disk recorders, such as Abekas

After evaluating several computer graphics systems, we concluded that this new system should run on existing SGI hardware, if only from the standpoints of cost effectiveness and return on investment.

The Aurora Liberty software satisfied our requirements, and gave us some additional benefits, such as powerful support for various input/output devices and, most of all, reasonable price and tremendous price/performance.

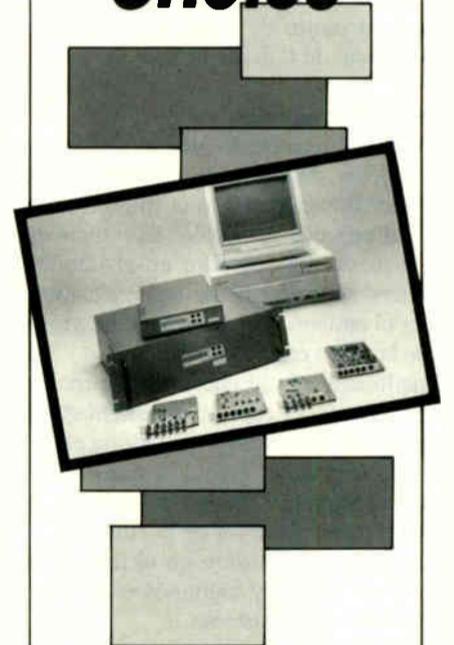
Thanks to its excellent performance, we at Cinepix are very pleased to be a Liberty end-user. We will use Liberty to produce graphics for music videos in addition to our present applications in commercial production.

We are planning to buy the Abekas A85 specifically for use with Liberty.

Editor's note: Shin-Hee Cho attended YeonSe University in Seoul and has worked as a research engineer at Goldstar Semiconductor and Software Ltd. He and his wife founded Cinepix in 1989.

The opinions expressed above are the author's alone. For further information on the Liberty, contact Katcha Burnett at Aurora Systems: telephone: +1-408-988-2000; FAX: +1-908-986-0452, or circle Reader Service 48.

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ANIMACION AL ESTILO MODERNO

Por Carl Anderson
Artista Gráfico de Girard Video

WASHINGTON El programa Caligari Broadcast de Octree Software, Inc. es un programa de modelación y animación 3-D para la computadora Amiga, que permite un interfaz intuitivo entre el artista y la computadora. Los procesos para la composición de escenas y el diseño de los objetos se llevan a cabo en una Amiga 2000.

INFORME DE LOS USUARIOS

Mi sistema ha sido modificado por un tablero acelerador GVP 68030 y 8MB de RAM. Los fotogramas o fotografías individuales aparecen completos en color (32 bits) en un tablero Vista de Truevision.

El espacio 3-D para diseño, desarrollado por Octree Software, es la característica más notable del programa Caligari. Además de la vista frontal, lateral y superior, el artista puede escoger la perspectiva deseada. De esta manera se proporciona un punto de vista movable dentro del espacio de trabajo 3-D.

Un trabajo realista

El ratoncito es usado para mover el ojo o los objetos seleccionados en este entorno tridimensional, dando una impresión realista al proceso de diseño. El movimiento de la mano del operador en el ratoncito, moviendo los objetos de lugar y cambiándoles el tamaño, corresponde al movimiento de la mano en la vida real.

Igualmente, el ojo puede rotar y moverse fácilmente en el espacio cuadrículado que es parte del programa y que limita el espacio 3-D de trabajo. Debido a que el diseño y los movimientos dentro del entorno 3-D son tan parecidos a los de la vida real, casi no hay tiempo perdido en el aprendizaje para crear títulos y logotipos o distintivos complejos con el sistema.

Al poder dibujar, copiar, pegar, manipular y cambiar el tamaño de los objetos visualmente, el artista evita mucho trabajo en el teclado. Sin embargo, datos numéricos exactos para tamaño y posición pueden ser introducidos por medio del teclado.

Arte primitivo

Caligari tiene una colección de dibujos 3-D primitivos, tales como el cubo, la esfera, el cono y el cilindro. Se pueden formar objetos torneados o estrudados de polígonos planos o se pueden hacer conversiones de programas de pinturas usando el programa Pixel 3-D.

La función para editar con un punto único permite que los planos sean rebanados y que se formen objetos más complejos, reflejando un polígono o repitiendo la imagen con el haz eléctrico. Después de haber configurado un objeto complejo, se puede tener acceso a sus componentes. Esto permite alterar sus formas y definir las propiedades de superficie.

Una vez se ha terminado con la configuración de los objetos, éstos son transportados al módulo para diseño de escenas. En este módulo se establece la iluminación, se asignan las características de superficie y se completa la composición de la escena total con rotación y movimiento del ojo para enmarcar la escena.

Se pueden seleccionar sombreadores

Phong, Gouraud, Metal o Flat. Se puede hacer un mapa del entorno para crear superficies reflectoras, tales como el cromo o el vidrio. Mapas de relieve pueden ser importados de los archivos Vista, Targa y Tips. Este último es un programa de pinturas que está incorporado al Caligari.

Tomando control

Moviendo el ojo alrededor de la escena, se puede establecer la iluminación asignándole a las luces las mismas coordenadas del ojo. Caligari no hace trazados con un rayo de luz pero imita de manera muy efectiva las propiedades de la superficie, tales como los puntos de luz o las sombras, en menos tiempo que los programas de trazado.

Con este sistema, el control de la animación tiene una característica informal e interactiva, similar al movimiento de objetos sobre una mesa. El ojo y los objetos que van a ser animados pasan por un orden preestablecido de cuadros claves

usando el ratoncito. A continuación se insertan cuadros calculados con base lineal (plana) o de superficie curva.

La observación preliminar en tiempo verdadero con controles similares a el VTR permite los cambios de velocidad en la animación. Con el uso de un editor de texto, el libreto para la animación puede ser manipulado aún más con entradas numéricas exactas para establecer la aceleración, las luces para la animación y los cambios en los mapas de relieve.

Imágenes fotorealísticas son vertidas en tableros Truevision Targa o Vista en 16,7 millones de colores con resolución hasta de 8,000x8,000 "pixels" por cada diapositiva producida. Sin embargo, por ser Vista un tablero gráfico de las computadoras personales de IBM, es necesario utilizar un tablero puente AT para la Amiga, para proporcionar las entradas para Vista. El utilizar este sistema híbrido es ciertamente posible pero algo ineficiente. Actualmente este es el único punto negativo en el Caligari.

La Versión 2.1 elimina la necesidad el tablero puente AT y del tablero Vista con el nuevo difusor o separador de cuadros Arlequín de 32 bits, desarrollado en Escocia.

Si Ud. es un artista gráfico cuyo proceso creativo se ve afectado por las complejidades del diseño tridimensional, Caligari le ofrece sencillez y flexibilidad para que sus conceptos tengan un flujo relativamente ininterrumpido.

Carl Anderson produce gráficas en su Amiga en su residencia en las montañas de Maryland y en las oficinas de Girard Video en Washington, D.C. Ha trabajado en dibujos animados tradicionales y en computadora de escritorio y ha desempeñado trabajo editor de cinematografía y de cintas de video.

Para más información referente a Caligari, comuníquese con Art Prince en Octree Software Inc. al teléfono: +1-415-390-9600; FAX: +1-415-390-9755; o marque el No. 50 del Reader Service.

Performance Posts with a Prizm

by Fausto A. Sanchez
Vice President
Performance Post Incorporated

STUDIO CITY, California Performance Post Inc. is a mid-size editing facility that offers the broadcast and professional video marketplace on-line, off-line, sweetening and graphics services.

About two years ago, our clients started asking for 3-D digital video effects, including true page turns and roll effects. We have several channels of Ampex ADO available to all our edit suites, and these systems have been very reliable. But they could not provide the effects demanded by our clients.

Naturally, we began to search for new graphics capabilities. Our goal was to find equipment that was cost effective, easy to use, reliable, upgradable to CCIR-601, plug-compatible with our facility and, last but not least, open-ended.

Many of the systems we looked at could not meet all these requirements. Some offered nice page turns but were built on old hardware platforms. Those that met our needs and were

USER REPORT

priced right required that we rely on the manufacturer for new effects.

Then, a friend introduced us to Pinnacle Systems and the Prizm Video Workstation. The machine was great. We plugged it in, and it was ready to go.

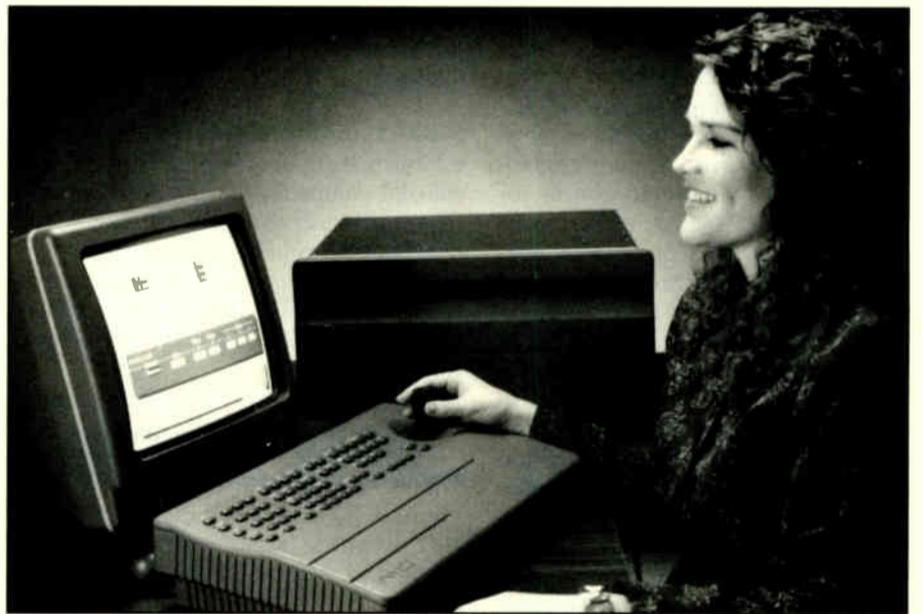
Easy to integrate with other equipment, Prizm is built on state-of-the-art technology, offering 601 digital component and composite I/O capability. And it was affordable. It also has the capability to map video combined with animation in real time, something you have to see to believe.

The only drawback was that we still would not be able to produce our own effects.

Pinnacle then introduced us to the DVEator upgrade. The system has true 3-D effects and simultaneous A/B source video in real time. Best of all, the effects can be created by the end user with the DVEator Creation Station, an IBM-com-

patible PC with software.

All in all, the Prizm Video Workstation with DVEator is great. We are very excited at its many capabilities, and the video quality is as good as, if not better than, the other equipment



Upgrading Pinnacle's Prizm with the DVEator option permits true 3-D effects.

patible PC with software.

In April, we acquired a Prizm system with the DVEator option. We have been using the DVEator with our in-house Mach I edit system and Dubner character generators. We have used it to complete many promotional videos, and have just recently completed a two-hour animated special for Buena Vista.

The DVEator Creation Station has been a nice add-on. To create new effects or shapes, the Creation Station uses animation software to render effects. The Prizm workstation then plays back the rendered effect, mapping real time video onto an animated object, such as a sphere or page turn.

We now have the ability to give our clients great DVE effects and animation. This combination makes us competitive and allows us to provide a service to our clients that would have been cost-prohibi-

we evaluated. We often use the system in component mode and will mix composite video, all at the same time. We are now planning to use it in the emerging 601 format.

The Prizm workstation with the DVEator option gives you true 3-D effects and lets you get creative as well.

Editor's note: Fausto A. Sanchez began his video career at the ABC network in the U.S. in the early 1970s. He co-founded Performance Post in 1984.

The opinions expressed above are the author's alone. For further information on the Prizm with DVEator, contact Walter Werdmuller at Pinnacle Systems: telephone: +1-408-970-9787; FAX: +1-408-970-9798, or circle Reader Service 6.

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Motif Enhances an Editor's Toolkit

by Terry Bennel
Co-owner
First Effect

LONDON Small and streamlined, creative, component on-line: this is what we have been building from scratch at First Effect for the past 18 months.

With our broadcast, corporate and commercial business up by over 30 percent last year, we could no longer put off the decision to buy a caption generator.

We chose the Aston Motif for about £16,500 (about US\$30,000) mainly because it is a very competent PostScript video engine. Motif uses PostScript Type 1 typefaces, a format that DTP and computer-based graphics professionals have been familiar with for years.

Mix and match

Matching typefaces from Art Department hard copy couldn't be simpler. And being vector-based information, typefaces can be used at any size from 1 to 576 lines (625 PAL). The beauty of PostScript is its wide availability and choice, both of typefaces and suppliers.

Operations-wise, there seems to be an "Aston" way of doing things. Every Aston I have ever used seems to possess peculiar notions of what constitutes ergonomic and intuitive operation. But once over this hurdle, Motif is a fine piece of operational machinery.

Dialogue is via trackball, cursor and menus. Having typed a caption, all operations are carried out using logical

USER REPORT

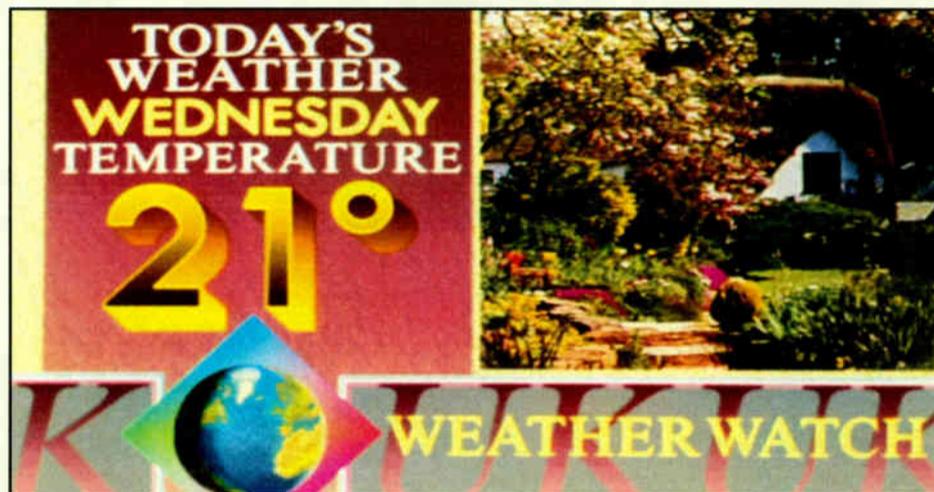
menu and sub-menu choices.

Typeface sizing, width, boldness and direction and extent of shadow, block and outline are all on one sub-menu, while color of character face, shadow, block and outline are on another. Colors can be flat or graduated, and the level of transparency can be controlled.

As for rendering time, all modifications to color and transparency are instant, but modifications to size, shadow, outline and other such parameters

are not. Up to 60 or so lines high, render time is quite tolerable. And once Motif has rendered a character at a given size with certain attributes, it is thereafter available instantly.

But be prepared for a long wait if, for instance, you want your typeface 400 lines high with a 5 percent outline and



First Effect of London uses the Aston Motif to create stylish graphics.

7.5 percent shadow at 315 degrees, especially if you want that shadow soft.

In all fairness, these are tricks normally associated with character generators two or three times the price. With Motif, you can have virtually anything you want, as long as you're prepared to wait.

Disk storage

Once the caption is created, it is stored on hard disk with a page number. Project management is duly taken care of with a directory structure that allows unlimited user accounts to own any number of project or page files containing caption pages.

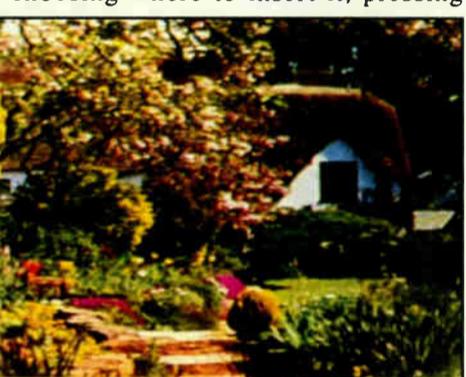
Any block of text can be zipped or faded on or off screen by inserting a marker. Speed and direction can be modified, although I would prefer to see speed in frames, rather than as 0.1 second or the arbitrary 1 to 10 used for fade times.

The ability to fade blocks of text allows you to do things with a single unmasked effects keyer on a small switcher that were previously only the domain of large multikeyer switchers.

A page can be designated "static"

(default), "roll" or "crawl." Once designated roll or crawl, typing and editing are carried out directly onto the page, which rolls or crawls accordingly to accommodate the text.

Adding a name to the middle of a roller caption is carried out simply by choosing where to insert it, pressing



Insert Row and typing. The rest of the roller caption moves down accordingly.

Changing rows

It is worth mentioning that Motif only pretends to be a row-based machine. You can type, even overlap, anywhere you like, as often as you like, and dictate which rows are behind and which are in front.

When you run a roll or crawl, Motif really shows off by offering accelerate and decelerate periods at the beginning, end or anywhere in the middle of the page. Speed changes and pauses are programmable, too.

In the latest software release, Aston offers several new effects. "Vectors"

mix between quarter strength foreground and half strength background.

Visually, the background appears to get darker before the foreground appears. If you can set your switcher's keyer to accept shaped or unshaped foreground, it should be set to shaped.

PostScript connection

But it's the PostScript connection that enables a good deal of Motif's creative potential to be exercised. There are several software packages available that allow manipulation of the PostScript typeface definitions. We use Fontographer on our Macintoshes to modify typefaces and create logos or just plain geometric shapes.

These are saved to floppy disk and imported directly into Motif for sizing before use on screen. Motif also uses certain preset dimensions in the typeface to implement color graduations, so these are controllable also.

The latest developments from Aston go even further with software called "The Fixer," which enables frame grabs to be imported into Adobe Photoshop where they can be worked on before being exported back to Motif. This kind of manipulation is well beyond any other character generator at any price that I'm aware of. And with adequate pre-edit discussion time, it opens up a whole new arena of creativity, as well as forging closer ties with production company art departments.

Without going too far down the paint-box route, I think Motif makes a valuable contribution to an editor's toolkit. The tradeoff between capital investment and working time scales is an acceptable one.

Despite a few teething problems, Motif offers a completely new approach

Much of Motif's appeal revolves around its ability to assign levels of transparency to text and to fade text up and down.

BUYERS BRIEFS

Parallax Graphics has available the Matador paint and 2-D animation system for the SGI Iris workstation.

Matador can be used to combine images from 3-D, paint, live action or any other source. Once the correct source is chosen, Matador automatically performs such repetitive operations as rotoscoping, matte generation and retouching.

Matador features a 16.7 million color palette, splined line drawing, free rotation of text, configurable framestores for PAL, NTSC and high definition formats, and keyframed animation of text and other vector objects.

For further information, contact Nigel Hall at +44-71-287-3626, FAX +44-71-494-2822, or circle **Reader Service 87**.

VideoLogic's Rapier 24 is a 24-bit graphics processor for the PC. It is the first to break the gigapixel barrier (1 billion pixels per second).

The two-page graphics processor brings workstation-class 24-bit true color (16.7 million) performance to Windows, AutoCAD and TIGA applications on standard PC compatible computers.

Interlaced PAL and NTSC video output allows users to connect it directly to a wide variety of video equipment, including projectors and encoders. It can also be upgraded to digitize video with a user installable full motion and still video capture option.

For more information, contact Lynne Dacy at VideoLogic: +1-617-494-0530, FAX +1-617-494-0534, or circle **Reader Service 37**.

will include wipes, stacks and pushes running horizontally or vertically, as well as crossfade between pages. "Super Vectors" will offer user-specified zoning of Vector effects. A Shapes Plane will allow base colors and geometric shapes to be placed behind text.

Much of Motif's appeal revolves around its ability to assign levels of transparency to text and to fade text up and down. The success of this depends on the abilities of the recipient keyer on your switcher.

This is where the definition of linear keying is everything. Many linear keyers assume that both foreground and background will always be at full strength, and that the way they finally appear is totally dependent upon the level of key signal.

However, in a half strength key signal situation, Motif would make available to the switcher a half strength key signal and a half strength, or pre-shaped, foreground. The result would be a half

to character generation. Besides being a competent workhorse, it has real potential as a typographical manipulator.

Used in conjunction with Macintosh applications like Fontographer and Photoshop, it heralds a new era of innovative work, a breaking down of traditional barriers, an opportunity to forge new lines of communications with production and an opportunity to start redefining the on-line booth as a craftsperson's workshop.

Editor's note: Terry Bennel began his video career in 1969 as a technical assistant at the BBC, where he worked for 10 years before joining the post production industry. He co-founded First Effect two years ago.

*The opinions expressed above are the author's alone. For further information about the Motif, contact John Holton at Aston: telephone: +44-252-836-221; FAX: +44-252-837-923 or circle **Reader Service 21**.*

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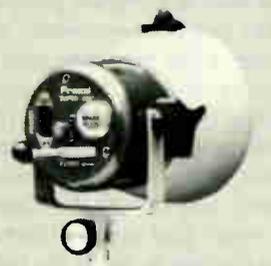
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Circle 124 On Reader Service Card

Harlequin Board Adds to the Amiga

by **Samantha Gemmell**

Owner

S.G. Independent Video Production

MANSFIELD, U.K. About a year ago, I realized that buying broadcast quality graphics took so much out of my budget that it was no longer profitable. Yet the demand for high quality graphics was increasing constantly.

I decided it was time to invest in a 2-D and 3-D graphics system. I discovered that Commodore's Amiga system had developed from a low resolution kids' games computer to a full 4:2:2 broadcast quality, 24-bit graphics station.

Independent developers

Of course, Commodore provides only the basic computer. All the expansion boards and software are developed by independent outfits. So it is worth shopping around to find the best hardware and software to meet your needs.

For my own system, I started with an Amiga 3000, running at 25 MHz, with a 100 MB hard drive, a GVP 040 accelerator board (a must for 24-hour commercial work), and a Syquest removable media drive for storing memory-hungry graphics.

But the all-important board that gives the system full 32-bit architecture is Amiga Centre Scotland's "Harlequin" board. Resolutions start at 740x576, so the quality is superb. And its double buffers allow us to oscillate between two screens to constantly update and check work.

Along with the main Harlequin board is a Harlequin genlock board, which is invaluable for locking the Harlequin's timing to an edit suite for accurate single-frame downloading of images to tape.

Also, I have a broadcast quality frame-grabber called V-Lab, also from ACS, an absolute must for anyone working in the film and video industry.

Software combinations

The need to combine 2-D and 3-D animation with a strong image processing function led me to put together an amazing array of powerful software. With some artful multitasking, it is possible to take all the software and use it as one complete system.

My primary paint package is ACS's TV Paint. It uses a central icon-driven menu, spare screen, a potential 6.8 million color palette and a very useful mixing palette. With stencils, multiple brushes, an extremely good air brush, special effects and some image processing, all for £1,000, this package has to be the bargain of the century.

My only reservation so far is that TV Paint does not contain perspective brushes, but this does not worry me too much because I can plug any gaps in TV Paint with my second ACS paint and image processing software, called ImaMaster.

This powerful program animates using Arexx scripts (small text script programs), and has all the filters, composition tools and output formats that you would expect to see at the high end of the graphics market.

There are many geometric transformation effects, such as ripples of water over an image, instant characters, and explosions and implosions of an image, to name a few. And, of course, all can be animated.

ImaMaster also contains the most

amazing broadcast quality morphing program, costing a mere £175.

My second image processing software package is from the U.S. firm ASDG and is called Art Department Professional. I use the program mainly as a file convert-

USER REPORT

er, so I can work off any disk on almost any format provided by my clients. It is also very good for resizing, flipping and cropping images for use in other programs, and it has some excellent convolution features, such as treating images with a stone or woodcut effect.

My favorite program is "Real 3D," from the Finnish firm Activa International. This program allows the editor screen to be split into three small screens, representing the top, side and front views. The 3-D models are first created with primitives in wireframe and then paths of animation are constructed and the animation is rendered

in one of three resolutions, ranging from 740x576 to 910x576.

Real meets unreal

A nice little feature called texture indexing allows pictures that are frame-grabbed from the "real" world or created in one of the paint programs to be imported into the program, and "Real 3D" will automatically match up consecutive frames with the animation frames.

Because the program's environments mirror "real" environments, it really does mean that mirrors will reflect and lenses will distort. In fact, one of our first exercises was to build a full working periscope inside the computer.

The only downside to these software packages (and there always is one), is their instruction manuals, in which we have found great gaps.

We tend to use the manuals to confirm suspicions rather than look to for guidance. We do make extensive use of the technical support telephone numbers, and

if the dealers cannot help, we go straight to the programmers themselves. We initially spent many an evening on the telephone or FAX to the U.S., and I have to say that, overall, there has always been someone who has sorted out our problems with accuracy and speed.

At a fraction of the market price for high quality graphics, the Amiga system is surely here to stay, which means that our clients get the graphics they need at a price they can afford.

Editor's note: Samantha Gemmell acquired her production skills working for the film industry in Los Angeles, California. She launched her own video production company in 1989.

The opinions expressed above are the author's alone. For further information on the Harlequin board, contact Martin Lowe at Amiga Centre Scotland: telephone: +44-98-687-583; FAX: +44-89-687-456, or circle Reader Service 110.

Forecasting in the Philippines

by **Raymond Miranda**

Manager

Alta Power Productions Inc.

SALCEDO VILLAGE, Philippines Alta Power Productions Inc., a subsidiary of Republic Broadcast System Inc. (GMA Rainbow Satellite Network), is a local company that provides a range of broadcast products and services to the Philippine market.

Late in 1991, we purchased an UltraGraphix 386-AT Weather Graphics System from a U.S. company, Accu-Weather Inc. of State College, Pennsylvania.

This system and the accompanying weather products and services Accu-Weather provides marked the introduction of forecasts and high-resolution graphics for the Philippines.

Vital information

The weather is a topic of great interest in the Western Pacific because it has a direct effect on our lives and fortunes.

The UltraGraphix 386-AT system is an IBM-compatible, PC-based workstation that utilizes an 80386 33 MHz processor with a 64K cache RAM in full size tower configuration. It is also equipped with a 4MB 70ns RAM, an IDE 80MB hard disk and a 1.44MB floppy disk drive.

The system architecture features dual color monitors: a color VGA monitor and a Sony PVM 1380 NTSC video graphics monitor (PAL capability is also available), as well as dual buffered 16-bit graphics display with 512x486 resolution, and a Kurta IS/ONE graphics tablet with cordless pen and mouse for paint and drawing.

Of particular importance in the production of our weather shows are the software capabilities Accu-Weather has built into the UltraGraphix 386-AT.

The weather graphics are acquired by modem or, where available, through direct access to stored images from satellite delivery. The graphics are obtained by means of a "scripted download," which allows us to acquire images with a single keyboard instruction. The result is that we can leave the machine unattended while it acquires graphics stored on the hard drive.

'Hands free' production

With this download feature, we can create a virtually unlimited number of stored lists corresponding to weather segments for various dayparts, weekend schedules, brief weather cut-ins, and the like. This "hands-free" mode of acquiring the visuals for a weathercast gives us more time for the preparation of the audio component of the presentation and other tasks prior to airtime.

The UltraGraphix 386-AT also has full software capabilities for the on-air sequencing and production of weather graphics.

We can create any desired sequence of weather maps, fast-frame satellite loops and radar composites, extended forecast sequences and other imagery using either Accu-Weather graphics or our own. We can choose from a large selection of wipe styles, dissolves and color animations.

A special capability of the system is that it can also be used to overlay weather information from Accu-Data on stored map bases. Accu-Data is Accu-Weather's real-time database containing current and forecast weather information from more than 6,000 weather stations worldwide.

USER REPORT

Using this service, we simply select the map base and the type of weather overlay information (e.g. tomorrow's high temperatures), and the finished graphic is generated in high resolution for on-air use.

At regular intervals, we receive a complete weather forecast script from Accu-Weather that contains not only the complete audio presentation for the forthcoming weathercast but also our list of accompanying weather graphic images selected for that weathercast. These graphics, specified by individual product codes, are sequenced in sync with the audio. The UltraGraphix 386-AT system then acquires the images from Accu-Weather via highspeed modem and inserts them into our on-air production sequence.

The weather graphics are controlled in the on-air presentation, in sync with the Accu-Weather forecast audio, by means of a hand-held remote switch or, alternatively, under programmed control or engineer's control. While the UltraGraphix workstation was mainly designed to produce weathercasts, it is also equipped with paint software that can be used to create graphics of any sort.

With weather playing such an important part of people's lives in this area, we felt we had to choose a weather forecast system from a company that has the support, know-how, resources and experience to do an excellent job.

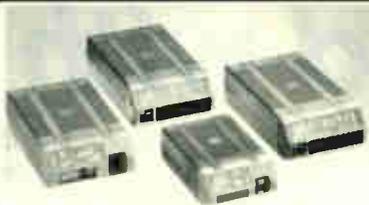
And, we had to be certain that our investment was reasonable and that the technology was right for what we wanted to accomplish.

Editor's note: Raymond Miranda has been a broadcaster for seven years and is a member of The Philippines Association of Broadcasters and a vice president of the Association of Professional Recording Studios.

The opinions expressed above are the author's alone. For further information about the UltraGraphix 386-AT system, contact Sheldon Levine at Accu-Weather: telephone: +1-814-234-9601; FAX: +1-814-238-1339, or circle Reader Service 102.

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MARKETPLACE



Battery chargers

PAG Ltd. introduced a new range of fast chargers for 4 V to 30 V, 1 Ah to 10 Ah Ni-Cad batteries. The AR Series of four autoranging computer-controlled chargers comprises two single-channel (AR 121 and AR 301) and two four-channel (AR 124 and AR 304) models. Both four-channel models will sequentially charge up to four batteries of mixed voltages and capacities within their ranges.

For more information, contact PAG Ltd. at +44-81-543-3131, FAX +44-81-540-4797, or circle **Reader Service 28**.



Routing switcher

The E.O.S. routing switcher from Talia accommodates a mixture of analog and digital routing within the same system. The user can connect any signal to any input and then assign any input signal to any other signal.

The standard analog video bandwidth is -3dB at 80 MHz. But for graphics and HDTV applications, it can be converted to handle over 100 MHz signals. Bandwidth of each crosspoint is specified at 300 MHz.

For more information, contact Talia Sound and Vision at +61-3-720-7700, FAX +61-03-720-7662, or circle **Reader Service 33**.



Microwave transmitter

Hitachi Denshi's ultra-compact TV microwave transmitters, FR7G1-Z4/FR10G1-Z4 are especially suited for professional camera operators shooting pictures for sporting events such as marathons, golf, or car races. One works in the 7 GHz band, and the other in the 10 GHz band.

The transmitter body weighs only 650 g, and the compact plane antenna weighs only 100 g. Transmission output is 1 watt.

For more information, contact Hitachi at +81-3-3255-8411, FAX +81-3-3257-1433, or circle **Reader Service 45**.

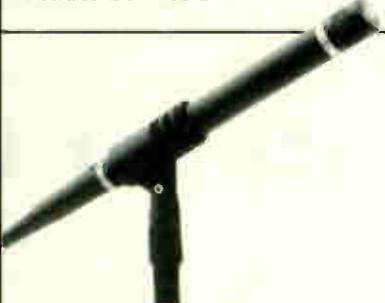


Audio editing system

Digital F/X's Digital Master EX is a direct-to-disk, four-channel, 16-track audio recorder and editor for video, audio and film professionals.

System features include non-destructive editing, variable speed playback and record, four independent digital and analog inputs and outputs, four-channel event playlist editing, true graphic waveform editing, and DAT backup and restore.

For more information, contact Digital F/X at +1-415-961-2800, FAX +1-415-961-6990, or circle **Reader Service 58**.



Cardioid microphone

Danish Pro Audio is distributing Bruel & Kjaer studio microphones, including the Type 4011 cardioid microphone pictured, and other microphones in the Series 4000 line, such as the omnidirectional 4006.

The 4011 is a transformerless condenser microphone suited for recording and spoken voice—especially in broadcasting.

For more information, contact Danish Pro Audio at +45-42-800-588; FAX +45-42-800-578, or circle **Reader Service 60**.

Low power transmitter

Gujarat Communications and Electronics Ltd.'s dual 10 watt low power TV transmitter is solar powered, and is designed to receive from the INSAT series satellites in S-Band and retransmit the TV signals in the normal broadcast band after processing. The system operates on a rechargeable battery bank.

A normal installation with omnidirectional antenna is expected to serve a community living with a 5 KM radius. The transmitter conforms to the CCIR B (PAL) standard.

For more information, contact Gujarat at FAX +91-265-43279, or circle **Reader Service 79**.



HDTV videowall computer

ICT's Splitmachine is an HDTV videowall splitting computer that works in PAL and NTSC standards, and Japanese, European and American HDTV standards as well as all additional computer graphics with frequencies up to 64 kHz.

The system can display the full HDTV scale of 1920 pixels.

The system allows doubling of the picture frequency to 100/120 Hz for flicker-free presentation.

For more information, contact ICT at +49-7025/102-0, FAX +49-7025/7111, or circle **Reader Service 86**.

Titling software

Image North Technologies' Version 3.1 of its Inscribe video titling software is available for ATVista TARGA+, TARGA 16, Matrox Illuminator and VGA videographics cards. It ships with 12 fonts, and features thumbnail views for image, layout, texture and logo selection, character sizes from five to 900 scan lines, keyboard remapping for full foreign language support and anti-aliased draw objects.

Minimum hardware requirements are a supported video card, 386/486 IBM PC system with hard disk and 4MB memory, and mouse or tablet.

For more information, contact W. Weaver at Main Frame Computer Graphics: +1-416-391-4500, FAX +1-416-391-1999, or circle **Reader Service 99**.

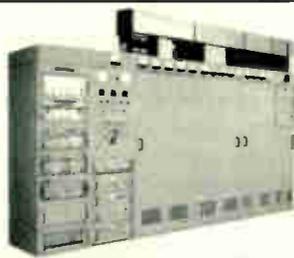
Telephone card

Megahertz Communications Ltd. recently introduced a three-channel telephone card that may be used as either a small stand-alone EMX (Engineering Manual Exchange) or as part of a large hybrid system allowing the mixing of DEL, private wires/control lines and extension, by interfacing to any suitable, off-the-shelf telephone exchange.

This allows total integration of all telephone communications, especially in the outside broadcast environment.

Each card has a ring generator (DTMF or 17/25 Hz), and each channel has a ring detector and latched select or deselected line.

For more information, contact Megahertz Communications at +44-638-660446, FAX +44-638-660195, or circle **Reader Service 107**.



VHF transmitter

Beijing Broadcast Equipment Factory's 10 kW VHF TV transmitter is forced air-cooled and supports the PAL color standard. Frequency response is -3dB to +0.5 dB at -0.75 MHz. Video input level is 1 V ±3 dB peak to peak/75Ω unbalanced, BNC connector. Intermodulation products in band are said to be -51 dB. Signal-to-noise ratio is >50 dB. Maximum frequency deviation is ±50 kHz.

For more information, contact BBEP at +86-1-445231, or circle **Reader Service 114**.

Solid state audio recorder

QuesTech's new SSAR solid state audio recorder, when used with its solid state video recorder (SSVR) will ensure accurate time relationship between audio and video information. It features a frame synchronizer standalone unit for maintaining lip sync; profanity delay for TV and radio live applications; 16-bit resolution; and 32 kHz, 44.1 kHz or 48 kHz sampling rate. Up to five minutes and 33 seconds of delay is possible.

For more information, contact QuesTech at +44-71-415-1519, FAX +44-71-329-3370, or circle **Reader Service 126**.



High-color VGA board

AT&T Graphics Software Labs' RIO VGA is a high-color VGA board that is a cost-effective alternative to its RIO 2-D design and illustration software.

The RIO VGA supports VGA and VESA platforms, as well as 16- and 24-bit high color VGA graphic boards. Except for the lack of hardware zoom and video capture capabilities, RIO VGA functions the same as the standard RIO.

For more information, contact AT&T GSL at : +1-317-844-4364, FAX +1-317-575-0649, or circle **Reader Service 135**.

Classic Videos Created with CEL

by Bruce Brenner
President

Classic Videos by Brenner Inc.

HOPKINS, Michigan If you could take a trip into the country and find a full-scale video production facility, you may think you are dreaming. Or, you may have just pulled into Classic Videos.

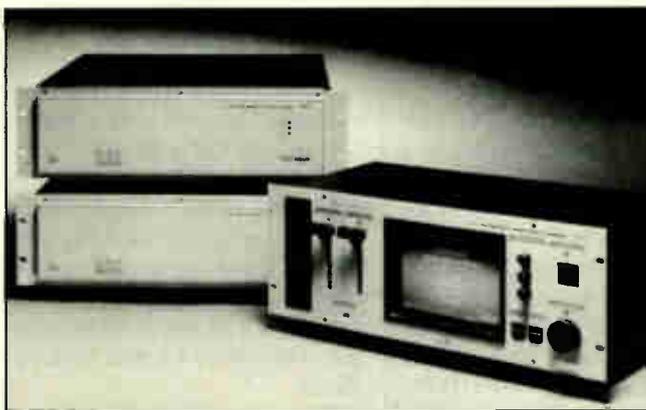
Located in the heart of dairy farming country, Classic Videos began as a hobby and is now a full-scale video production business.

While we started with two S-VHS decks and a simple controller, it quickly became apparent that more capabilities were required. We needed a system that was flexible, could grow with us and had an affordable price tag.

Growing with CEL

After examining what was available, we decided to go with the CEL Maurice DVE system because it had the capability to upgrade as we expanded.

The Maurice II P-152-B Universal Touch Screen Controller is the heart of the system. We have three channels of DVE using CEL P-164 Effects Frame-



Classic Videos' CEL system features three channels of digital video effects.

menu access to all system and effects functions. Main menus are directly accessible through the keypad, and submenus can be accessed with multiple action of the keys.

Controls can be assigned whenever necessary for the most convenient operation

mirrors; freeze with strobe effects; curvilinear effects; cropping; shot storage and recall; variable mosaics and posterization, and background color, just to name a few.

The CEL system is also a very effective

for any channel, and sequences can be stored on the disk drive. The system has a built-in mixer and a three-axis joystick with mode indication for setting picture size and position, which is convenient for setting the color of borders.

CEL's digital effects provide perspective and warps; skew and ripple; expansion with infinite zoom; dual borders with drop shadow; horizontal and vertical flip and

A/B roll editor that allows you to design your own sequences and save it to a disk for recall at the touch of a button.

CEL has been great help as we have grown, answering our questions and addressing our concerns. The company's service center was superb during the few times we have needed it.

Needless to say, we have been pleased with CEL and the people who stand behind it.

Editor's note: Bruce Brenner is a self-taught videographer who founded Classic Videos five years ago. In addition to his video business, he is a partner in a 1,200-head dairy and beef farm.

The opinions expressed above are the author's alone. For further information on the Maurice, contact F. Wesley Dixon at CEL: telephone: +1-913-345-0925; FAX: +1-913-345-2771, or circle Reader Service 2.

Sistema Clube Opts for GF-50

USER REPORT

store 4:2:2 TBCs.

We also use a CEL P-158 machine interface unit to control our three Panasonic S-VHS decks and three Sony decks, and we have a CEL P-169 V digitally controlled 8x4 routing switcher.

What is unique about the Maurice system is that the P-164 TBCs are capable of upgrading to component video. The 164s can handle composite video, Y-C (S-VHS), Y-C dub and YUV analog (component) and YUV digital.

Excellent quality

When we went to true component, the quality was awesome, especially when mastering to Betacam SP in component mode.

We have a 486/33 computer, which has broadcast titling, a digital paint system and much more. We use the RGB output from the computer, which goes into a transcoder, and in return, we get component video out, which we hook into one of the TBCs.

The disk-based touch screen controller is very easy to use. It features a structured

(continued from page 1)

outside Rio de Janeiro. About 70 percent of our projects are commercials for outside clients, with the balance being show opens, promos and station IDs for ourselves and our sister stations.

The GF-50 offers high-resolution character generation, a full-color paint system with video frame grabber and drawing tablet, as well as interactive 3-D modeling, rendering and animation. Our GF-50 has accelerator boards with RISC processors, which are included as standard equipment, and a still store call-up panel.

It uses dual display planes, which permit me to manipulate text or paint information on one plane without affecting the composition of the other plane. And it transparently interfaces with our Betacam VTRs and Sony BVE editor. We have configured it as a dual-user system, with our TV operations people using the Graphics Factory primarily as a character generator and still store, and me utilizing its paint and 3-D capabilities.

We had some problems when the system's 3-D rendering software was just

released. There were a few bugs in the system, and we operated without the accelerator for the first year. With the accelerator on-line, I think the system is about 20 times faster, although Grass Valley says it is slightly less than that.

Function integration

One of the system's strongest points is its integration of character generation, paint and 3-D rendering functions. You can very easily move between disciplines, generating a picture in 3-D, retouching it or adding a background in paint and going into the character generator to title.

The biggest project we have done on the GF-50 to date was a one-minute animated opening and closing credit sequence for the telenovela (soap opera) "Amazonia." Two designers from our home station, TV Manchete, came to us for a graphics treatment. In three weeks, we developed a very organic-looking animation. The 3-D shapes are texture-mapped with natural surfaces, such as the patterning of a leaf, and objects are morphed, like a slithering snake turning into the bark of a rubber tree.

We worked on "Amazonia's" storyboard for 40 days and spent a week in rendering, finishing two days before the deadline. Grass Valley did some rendering for us in the U.S. to achieve the fast turnaround we required, and their programmers were enormously helpful in responding to our needs. Sometimes we called them twice a day to talk about procedures and to get suggestions.

Changing shape

One of the hardest things to do in computer graphics is mutating shapes: the growing of leaves, the unfolding of objects. But the GF-50 allowed us to change the shape of the 3-D objects in the "Amazonia" animation very easily. We also made heavy use of texture-mapping, which is very beautiful to look at on the Graphics Factory. The computer's rendering is of a higher quality than most systems, too.

For an upcoming election project, we are hoping to make extensive use of our experience in morphing objects for a 45-second computer animation to be shown daily on 12-minute political programs.

Every time I sit down at the Graphics Factory to do a demonstration for a client, I learn new ways to apply the computer. The more features a program has, the more there is to learn. Thus, some people may find the Graphics Factory to be a bit difficult simply because it is so powerful.

I have been a computer user since I was 12 years old. I think my experience at Sistema Clube has helped me sharpen my artistic sensibilities, and the GF-50 has helped me push the limits of my imagination.

Editor's note: Simon Paul Scudder edited an estimated 2,000 commercials at Sistema Clube before being named manager of video production in 1990.

The opinions expressed above are the author's alone. For further information about the Graphics Factory, contact Evelyn Bronson at Grass Valley Group: telephone: +1-201-845-8900; FAX: +1-201-845-8063, or circle Reader Service 100.

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Sony 3CCD 3/4" chip w/case, chgr, batts, 3 yrs old, \$5000. JB, AR Comms, Box 26, Hutchinson MN 55350. 612-587-8645.

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Pana WV-3100 color video w/EVF zoom, \$225. B Grimm, Merc Svcs, POB 1523m, Longview WA 98632. 206-423-5614.

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Pana NightHawk BN555 w/low hrs & access, \$1250; JVC 1900U w/studio setup, Anvil case & access, \$750. J Kelly, Cape Fear Teleprods, 502 Market St, Wilmington NC 28401. 919-762-8028.

RCA TK-30 cable &/or manuals, auto setup BDS/complete setup panel. P Mundt, POB 1220, El Cerrito CA 94530. 510-232-0217.

Hitachi FP 15 (2) color, 3-tube Saticon, 1 1/2" & 4 1/2" view finders, rear servo zoom & manual focus controls, rem ctrl units & cables, external pwr sply, case, manual, extender cards, 10:1 zoom, \$3500+s/h; Hitachi FP21, color, 3-tube, 1 1/2" view finder, Anton batt brckt, camera case, manual, extender cards, plate, VTR cable, \$2000+s/h. D Hurd, Harding Univ, 805 Park St, Searcy AR 72149. 501-279-4658.

Sony DXC 325 3 CCD w/shotgun mic, mic mount, hard case, tripod plate, camera cable, 10x1 lens & manual, \$3000. S Briones, BVP Video Rcdg Co, 5036 Joe Herrera, El Paso TX 79924. 915-751-2223.

Sony ED Beta 2 CCD camcorder, 2 hr rec time, hard case, 10X zoom, chgr, batts,

Singer/Grallex 16mm carbon arc proj, \$1500+s/h. D Hurd, Harding Univ, 805 Park St, Searcy AR 72149. 501-279-4658.

SWITCHERS

Want to Sell

JVC KM2000 w/very low hrs, \$1150. J Kelly, Cape Fear Teleprods, 502 Market St, Wilmington NC 28401. 919-762-8028.

Utah Scientific AVS-1 20x20 w/stereo audio expandable to 30x30, (9) rem panels, new, \$17000/BO. G Kimball, AVS, 319 11th St, San Fran CA 94103. 415-863-6767.

Alta Group Centaurus S/S SEG w/dual dig TBCs, 60 meg HD, 250 field/125 frame storage cap, remote, Y/C-dub-comp comp, excel cond, \$8500. M Hedderick, 517-625-4770.

Kramer 4x4 matrix VS-6EII same as Comprehensive CMS 4x4, \$300. Michael, 415-488-0553.

Pana MX-10 SEG, excel cond, dig FX, wipes, fades, dissolves w/o TBCs w/manual & all BNC to phono adapters, \$1000. S Briones, BVP Video Rcdg Co, 5036 Joe Herrera, El Paso TX 79924. 915-751-2223.

Sony DME-450 3-input, 2-buss, DVE, gd cond, \$7500. B Kostelnik, North Coast, 3300 Lakeside Ave, Cleveland OH 44114. 216-575-8016.

JVC KM1200 AC, DC, very low hrs, \$800. S Palko, AM Vid Vis, 12851 Moorpark #204, Studio City CA 91604. 818-505-8047.

Alta Pyxis dual TBC/mixer/SEG w/audio-follow-video mixer, black burst/adv sync bener, GPI, warr, \$2000/BO. B Jones, Dapsho TV Prods, NW1015 Cliford St, Pullman WA 99163. 509-332-5858.

Sony WEX 2000 spec effect wipe, extender, \$450. M Farshad, 810-773-0179.

TRANSMITTERS/EXCITERS

Want to Sell

CCA 110 kW w/Marconi exciter & pulsers w/o magnets & klystrons, BO. E Brown, WRLH, 1925 Westmoreland St, Richmond VA 23230. 804-358-3535.

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Emcee TU-100-UA low pwr, gd cond w/spare mods, \$4000. M Hartman, 916-626-5322.

BTX 1100 1 kW UHF; Emcee E100 100 W UHF, both for LPTV. Julio, TV39, 409 W 10th, Long Beach CA 90813. 310-436-4482.

VIDEO PRODUCTION EQUIPMENT

Want to Sell

Fortel CCD HPS TBC w/all features except PAL, \$850. Michael, 415-488-0553.

Alexander Anton-Bauer-type brick batts (3), new, \$250 ea; 3-unit chgr, \$600; Bogen tripod 3194, new, \$750; Lowell TO-98 light kit, new \$900; (4) Pana TR-930B 9" B/W mons, \$175 ea. T Jeans, Prism Video Svcs, 2100 S 7th St Ste 278, Rapid City SD 57701. 605-394-5720.

Microtime Digitrol2 sequencer, new, \$750. N Cloke, WMUR, POB 9, Manchester NH 03105. 603-669-9999.

Sony SEG 2550/A w/WEX-2000 wipe extender; BVE800 serial interface; MX-P21 audio mixer; Ultimate Newsmatte II; I-DEN 7 TBC; Prime Image TBC +100. R Peterson, 206-754-7081.

Lip sync video chroma key system; JVC 1200U 4-input switcher; FOR A FA210 TBC, rack mount; Sony XV D300 dig pict effects box; Pana 3260 camera w/RGB adap; Bogen tripod, (2) 20" TVs; Polaroid video freeze frame, nds to be fixed; CD plyr; wires & extras, \$5500/BO. Ed, 813-979-9356.

Ultimate Amusematte composites from blue/green screen shots, mint cond w/manual, \$2950; Pioneer LD-V6000A indus laser disc plyr, genlockable w/ext sync, SC inputs, rem & manual, \$1450; Sigma CSG-460 color sync gener w/10 outputs, genlock/crystal oper, SC & H adjustable w/manual, \$1100. Charley, TVE, 168 Burns St, Forest Hills NY 11375. 718-263-6300.

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Pana NVA 505 edit controller w/control cable & manual, mint cond, \$395. R Walker, Cima Prods, 1409 Grissom Ln, Blacksburg VA 24060. 703-552-1208.

Sony LDP-1000 (3) laser video disc plyrs, CAV & CLV, int/ext drive, genlocable, RS232, remote, manual & cables, excel cond, \$400 ea/\$1000 all. J Krepol, JVK Studios, 7 Dustin Dr, Claymont DE 19703. 302-798-4076.

Pana TBC 200plus, excel cond, \$2000; Alta Celeris Y/C format converter, excel cond, \$500. D Jordan, Jordan Concepts, 2505 W Iola, Broken Arrow OK 74012. 918-258-6389.

EEOC Ives II SMPTE time code edit controller w/prog A/V mixer/lader, frame accurate; Ikegami mon, manual, cables & interface kits for Sony VO-5850/5800 & cable & interface kit for Pana NV-8500, \$1700 all. S Briones, BVP Video Rcdg Co, 5036 Joe Herrera, El Paso TX 79924. 915-751-2223.

Adda AC 20 AS dual TBC w/effects switcher, \$3250/BO. J Spaulding, Image West, POB 84, Garrison CO 81230. 303-641-6544.

Sony RME-700 edit controller w/tilter & superimposed, RC time code, 99 scene mem, jog-shuttle, \$700; (6) Chicon 4000GL dual 8mm movie proj w/var spd motor, \$500 ea. M Holtzman, Pro Video, POB 432, Ontario OR 97914. 503-889-8343.

USED EQUIPMENT:
The largest dealer in the USA. We buy, sell, consign, locate & trade used equipment. Pra Video & Film Equipment Group. Dallas. 214-869-0011. FAX: 214-869-0145.

Abekas A-42 still store w/1400 stills, library sys, streamer, 2-chnl, 2-kybd, excel cond, \$25000. N Cloke, WMUR, POB 9, Manchester NH 03105. 603-669-9999.

Electrohome EPC-2000 video proj, very low hrs, high lumans, single lens, \$2000; Everiz 3600D edit code gener/reader, NTSC & PAL in SMPTE RS-170A or EBU video char, \$1000. Jaye, Nimbus Pro, POB 5903, Tacoma Pk MD 20913. 301-507-3358.

Alta Pyxis dual chnl TBC w/SEG; Paltex Abner A/B roll edit controller w/mon; Paltex R-Sid A/D converter; Evertz E2 serial interface; Pana WV-RC30 CCU; Knox color box; Pana AS-2000 chroma key gener, BO. Mark, HVS, 1100 Funs Rd, Green Bay WI 54311. 414-468-4751.

Sony BVT810 w/DT cable, excel cond, \$1750/BO; CEL P147-20 w/(2) P151 DVE units, excel cond, \$1500/BO; United Media TBC cart, \$150/BP. D Redman, 703-527-1200.

JVC BR8600U edit deck, BR6400U source deck, 86U editor, ICM 2000P proc, 4 1/2 yrs old, \$3850. B Hines, IPS, RD 1 Box 413A, Export PA 15632. 412-468-4115.

Hotronic AF71 (2) dig TBCs, very low hrs, \$1500 ea/BO. S Palko, AM Vid Vis, 12851 Moorpark #204, Studio City CA 91604. 818-505-8047.

Pana NV-9240 (3) w/A960 controller, very gd cond, dub in/out, \$1650/BO. R Jensen, MPI Prods, 5812 21st St, Racine WI 53406. 414-632-3131.

Pana 9" B&W, excel cond, \$85. R Walker, Cima Prods, 1409 Grissom Ln, Blacksburg VA 24060. 703-552-1208.

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Pana V-3 3-tube Prism w/batt & case & Sony 6800 3/4" U case, great cond, \$1400 COD. J Kay, K-Video, 157 Wiltshire Rd, Claymont DE 19703. 302-798-2229.

Electrohome ESP-2000 proj, single lens, bright, low hrs, computer input, \$3000; Pana TQ 2022 video laser disk rec, 5", audio inputs, records 15K images, \$1800. Jaye, Nimbus, POB 5903, Tacoma Pk MD 20913. 301-507-3358.

Convergence VE93 editor w/time code & (2) cards for JVC VHS decks, \$1500. Katherine, Linden, 229 N Henry St, Alexandria VA 22314. 703-549-4424.

VCRS/VTRS

Want to Sell

JVC 's: CR-4700U, port, fair cond, \$400; CR-4900U, gd cond, \$800; (2) CR-5500U, excel cond, \$750 ea; CR-6600U, excel cond, \$1000; Sony VO-5850, gd cond, loud scanner, \$2000. N Cloke, WMUR, POB 9, Manchester NH 03105. 603-669-9999.

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JVC S-VHS KY15, 16:1, MK50U, mic, 3-brand new NB-G1U, batts, chgr, TC input, Portabrace cover & case, Bogen tripod/dolly, low hrs, excel cond, \$7500/BO. S Palko, AM Vid Vis, 12851 Moorpark #204, Studio City CA 91604. 818-505-8047.

Ikegami (6) 730A, gd cond, \$1750 ea; (4) 730AP w/CCUs, large VF, 12:1x2 lens & 50M cable, excel cond, \$2500 ea. N Cloke, WMUR, POB 9, Manchester NH 03105. 603-669-9999.

Pana V3 3-tube Newvicon w/filters, \$1000; Pana WV-6000 1-tube Saticon 12:1 zoom w/hard case & filters, \$800. R Treffts, BT Enterprises, 472 B Prospect Creek Dr, Manchester MO 63021. 314-256-0608.

WV-F250B w/hard case & warranty, \$5800. T Jeans, Prism Video Svcs, 2100 S 7th St Ste 278, Rapid City SD 57701. 605-394-5720.

Norelco PC70 (2) 3-tube plumbicon studio cam systems w/4 lenses, \$500; RCA TC-1209-04 9" rack, B&W mon, \$150; (4) B&W CCTV cameras, \$50 ea. J Krepol, JVK Studios, 7 Dustin Dr, Claymont DE 19703. 302-798-4076.

Hitachi Z-31 (2) w/CCUs & all access, perf shape, \$4995/both; Sony M3, gd shape w/o lens, \$795. R Bruno, TVI, 975 Greenhouse Rd, Pittsburgh PA 15220. 412-921-7577.

very low use, 500 lines res on tape, Y/C in & out, \$3800. M Holtzman, Pro Video, POB 432, Ontario OR 97914. 503-889-8343.

Sony CCD-V500 Hi8 camcorder w/TBC & spec effects, extra batts, \$1750. D Jordan, Jordan Concepts, 2505 W Iola, Broken Arrow OK 74012. 918-258-6389.

Pana AG 450 1-chip S-VHS, 10:1, 450 line res, used less than 50 hrs, \$950. G Askim, 404-431-9100.

Sony DXC 325K, excel cond, 3 chips & low hrs w/hard case, viewfinder, 10x Canon lens, tripod adaptor & 14-pin cable, \$2950; S-VHS/VHS deck w/AC adaptor w/Hi-Fi audio & 2 batts, \$2200, all \$4950. Ray, 301-944-7355.

Sony EVO-9100 (2) camcorders, (22) new tapes, extra batts, carrying bags, CD chgr/pwr sply, low hrs, excel cond, \$3500. S Finley, KRO Prods, 907 Highland Rd, Charleston WV 25302. 304-345-5619.

MOVIE PRODUCTION EQUIPMENT

Want to Sell

Arriflex S 16mm movie cam w/(2) 500' magazines, 70mm lens, (2) motors, crystal sync & reg & access, very clean, \$3000. Jaye, Nimbus Pro, POB 5903, Tacoma Pk MD 20913. 301-507-3358.

Sony PVW 2600 SP Beta plyr, new, 170 hrs, hard/software updates Sony installed, \$9100. Stu, Moving Images, 1805 Marmot Hill Rd, Fairbanks AK 99709. 907-479-5928.

JVC EI-511 S-VHS interface for Sony RM-440/450 controller w/45-pin cable, \$250. Charley, TVE, 168 Burns St, Forest Hills NY 11375. 718-263-6300.

JVC CR-4900U port w/case, batts, chrgr, \$2500. JB, AR Comms, Box 26, Hutchinson MN 55350. 612-587-8645.

Pana AG S7/15 adapter for 7450 dockable rec, excel cond, \$400; Pana NV 9600 editor for parts, scanner defective, \$300. D Jordan, Jordan Concepts, 2505 W Iola, Broken Arrow OK 74012. 918-258-6389.

Pana AG-6400 VHS port w/case, \$600. R Treffts, BT Enterprises, 472 B Prospect Creek Dr, Manchester MO 63021. 314-256-0608.

Pana AU-65 MII rec w/time code, \$11000; AU-63 MII plyr w/time coder, \$11400; AG-7750 S-VHS deck, \$5400; AG-7450 S-VHS dockable, \$2200; AU-410s dockable MII, \$7700 & \$5800, all w/warranty. T Jeans, Prism Video Svcs, 2100 S 7th St Ste 278, Rapid City SD 57701. 605-394-5720.

Pana 9500 3/4", \$400; Sony Beta SLO 420, \$300. J Baltar, Maine Reel, 67 Green St, August aME 04330. 207-623-1941.

Sony VO5850, 200 hrs on new hds, very gd cond, \$2000/BO; Sony VP5000, low hrs, \$500/BO. D Redman, 703-527-1200.

Sony SLO320 Beta I, (2), gd cond, \$75 ea/\$125 both+s/h. J Carman, A/V, 428 Finley St, Auburn CA 95603. 916-885-9335.

Sony ED Beta (2) w/built-in edit controller, 500 lines red on tape, 2 hr rec time, Y/C in & out, very low use, \$2200 ea. M Holtzman, Pro Video, POB 432, Ontario OR 97914. 503-889-8343.

Sony VO-5600 3/4" rec, rev/lwd search, less than 200 hrs, very clean, \$1000. Jaye, Nimbus, POB 5903, Tacoma Pk MD 20913. 301-507-3358.

Sony 1600 3/4" rec, working, \$350. G Askim, 404-431-9100.

Pana NV-9240 (2) 3/4" R/P, very gd cond, Y-688 dub in/out, \$600/BO. R Jensen, MPI Prods, 5812 21st St, Racine WI 53406. 414-632-3131.

Sony VP-9000 SP plyr w/TBC conn facilities & 33 pin, perf shape, \$1750. R Bruno, TVI, 975 Greenhouse Rd, Pittsburgh PA 15220. 412-921-7577.

Sony SL2000 consumer Beta, NP-22 batts, JVC DCC-50U 12 V batts. Ralph, 712-279-5483.

JVC BR-7700U VHS rec/edit mach, very low hrs w/remote & manuals, \$1000. B Blank, Blank Prods, 1597 Hope St, Stamford CT 06907. 203-968-2420.

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JVC CR4400 port 3/4" rec w/pwr sply & batt, Portabrace case, \$750+s/h. D Hurd, Harding Univ, 805 Park St, Searcy AR 72149. 501-279-4658.

Sony VP-5850 edit deck, \$3500; VO-5800 edit source deck, \$2500; (2) BVU 200A 3/4" bdc quality edit decks & Sony BVE 500A edit controller w/all cables, manuals, schematics, \$3200; VO-8800 3/4" port SP rec w/(4) NP-1 batts, chrgr, CMA-8 adapter, strap & manual, \$2500. S Briones, BVP Video Rcdg Co, 5036 Joe Herrera, El Paso TX 79924. 915-751-2223.

Mexico City Facility Turns to the VENICE

by Tomás Meraz
Graphics Director
Beta Imagen

MEXICO CITY Professional video production in Mexico is quickly expanding to include world markets. The work we do here at Beta Imagen is no exception.

The demand from clients like Coca-Cola, Chrysler, Colgate, Pepsi and Nissan for quality productions that meet global market standards required us to search for the right equipment to meet the task.

Our answer was to provide a fully-equipped digital facility offering D-1 and D-2 DVTRs, an Abekas Digital Disk Recorder, Grass Valley Group Kaleidoscope, a customized Steadi-Film system and a Rank telecine in the 4:2:2 domain. Supported by a fully compatible graphics department, this facility allows us to accomplish all facets of a production, right through international distribution.

Our graphics system was an especially important consideration. We wanted a system that could quickly handle any production challenges.

This type of reaction to customer needs defined a company that pushes itself to always be state-of-the-art. It is also one that promises to be around for a long time: Getris Images.

Getris Images' VENICE system gives you graphics tools that allow you to be truly creative. You can design free-hand spontaneously, with the confidence that many of today's videographic artists look for in a system.

VENICE gives you powerful paint and animation capabilities, with multilayering and real-time animation. And the system makes it easy for the client to participate in the production, which helps make the final result pleasing to both client and graphic artist.

The versatility of the VENICE is reflected in every task performed, from painting to rotoscoping to cel animation to simple support graphics. VENICE gives us a definite advantage in dealing with today's demand for digital production.

VENICE language and architecture is open and extremely easy to use. Technically speaking, its internal structure is 4:4:4:4, which is converted to 4:2:2 to interface it to VTRs and DVTRs.

USER REPORT

RGB signals are sampled at 13.5 MHz, and so is the alpha channel representing image transparency. Therefore the conversion is totally digital. (This is a big difference from other systems. We wanted to avoid the inherent deterioration of the 4:2:2 standard when chrominance channels are sampled at 6.75 MHz instead of 13.5 MHz.)

You can interface VENICE virtually any way you want. It does not matter if you are creating on-air graphics or a full commercial spot; the system is totally adaptable.

As an artist, I find VENICE to be an extension of my creativity. Creating an idea and making it appear effortlessly is a kind of magic.

Beta Imagen is prepared for the future with digital equipment like the VENICE.

Editor's note: Tomás Meraz is head of the graphics department of Beta Imagen, a post production facility in Mexico City.

The opinions expressed above are the author's alone.

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