Telecast Fiber Systems' Rattler Takes STAR Award at NAB2005
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VOLUME 23, NO. 10 • MAY 25, 2005

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NAB2005: Less Talk...

Innovation thrives at annual broadcast event

by Deborah McAdams

LAS VEGAS

While there were no major breakthroughs at NAB2005, there was no shortage of innovation, contradicting a widely circulated premise that broadcasters' use of spectrum is holding up the development of new technology.

Robert Dotson, president and CEO of T-Mobile, expressed a prevalent view on Capitol Hill in his call for a hard shut-off date for broadcast analog TV. T-Mobile is part of a coalition formed recently just for that purpose.

"Certainty will allow us to build business plans that will work and open the doors to capital for entrepreneurs and innovators," Dotson said.

Two guys in the South Hall who had little more than a card table and a fabric backdrop for a booth demonstrated that digital broadcasting is not without innovation. David Blum and Michael Aryev of Helissio Technologies came to the show at the last minute, having obtained a priority date for a U.S. patent application for their AVC pre-processing technology. Blum and Aryev were running a very sharp 720p, 24fps feed at 1 Mbps, something that was considered impossible just a few years ago.

SENDING MORE, STORING MORE

Elsewhere on the show floors, two venture companies—InPhase and Optware—signaled the opening salvo in the battle over holographic disk systems, which record on the full depth of the medium instead of just the surface of a disk. One current-generation holographic disk can potentially hold 200 GB, about 200 times the capacity of a single-layer DVD, and roughly 10 times more than high-definition disks. Second-generation holographic disks are expected to hold as much as 1 TB.

MORE ACTION, PAGE 10

"Harris simplifies distribution, operation and maintenance of our entire network. It's great."

Jeff Burmeister, Director of Engineering, KENW-TV

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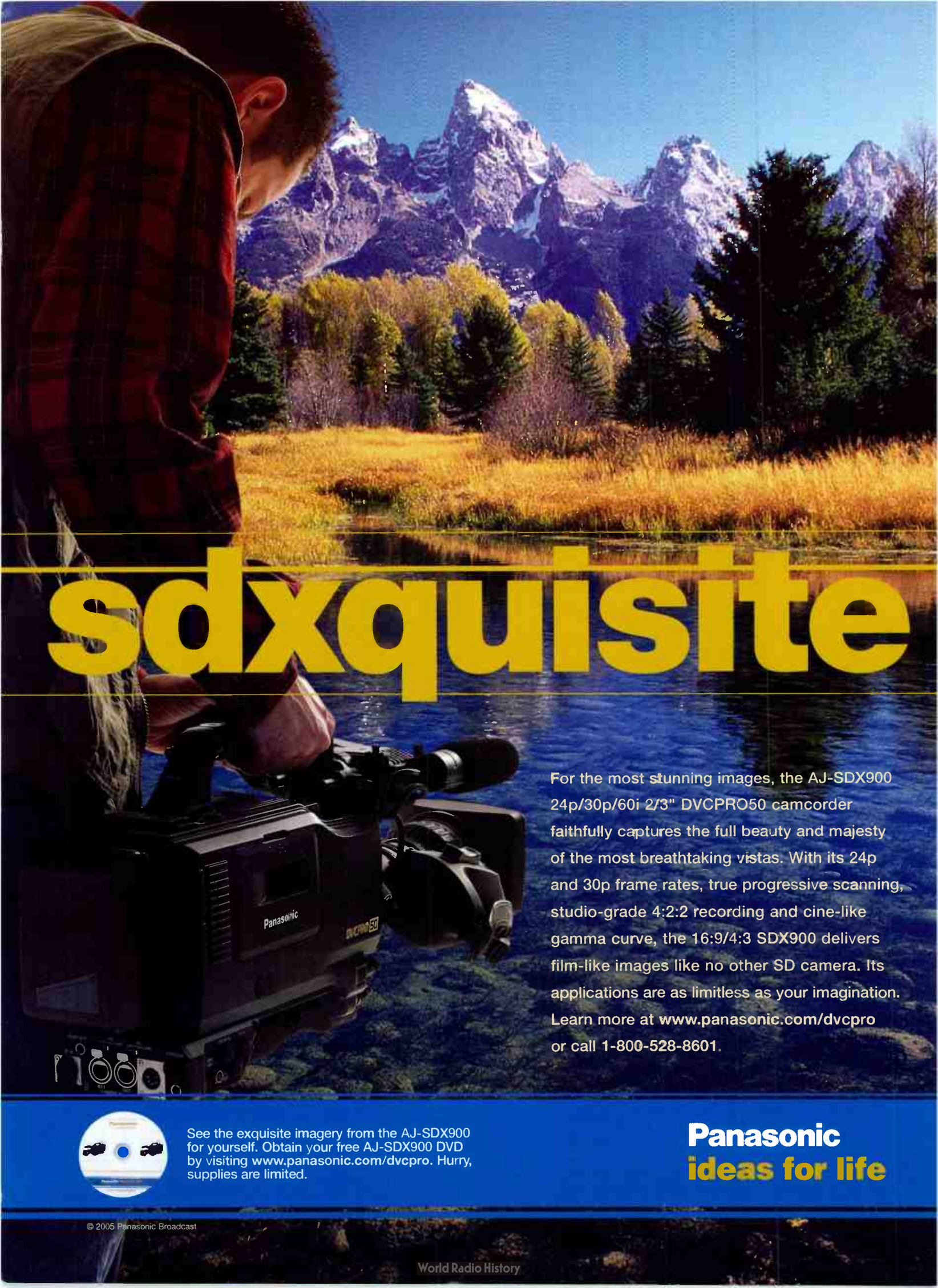

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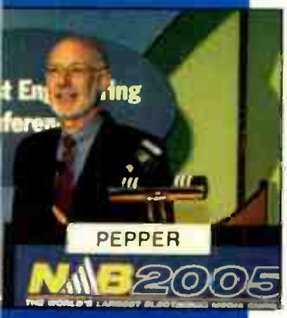

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Infocomm comes to Vegas

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Craig Johnston

Cameras

High-definition imaging was stretched in two directions at NAB2005, with the introduction of 1080 60p (yes, progressive) native image capture on the high end, as well as a smattering of $5,000 HD camcorders. ...Page 103

NAME:
Mary Gruszka

Test and Measurement

The NAB2005 show floor was teaming with a wide variety of test and measurement products. For audio, there were more ways to measure and monitor 5.1 (and beyond) surround sound. For video, rasterizers came with...Page 115

NAME:
Bob Kovacs

Routers and Switchers

It used to be that production and master control switchers simply, well... switched. They performed basic cuts from Camera-1 to Camera-2 or from the network to the local studio, that sort of thing. Today, switchers are...Page 140

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TV TECHNOLOGY
Vol 23 No 10 May 25, 2005
Telephone: (703) 998-7600
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FROM THE EDITOR

Another Grand Event

Another NAB has come and gone and what have you got to show for it other than sore feet and a towering mass of business cards? As we all know, no one can possibly view every piece of technology on the show floor (except our very own Mario, who says he visits every booth to determine who receives the prestigious Mario Award).

Were you there? If not, then you missed a grand event; more than 100,000 of your colleagues were. A lot has happened since the last time broadcasters gathered in Vegas, and yet the phrase "the more things change, the more they stay the same," comes to mind as well. Congress is breathing down broadcasters' backs with the analog shutoff deadline right around the corner, but there remains a lack of consensus on Capitol Hill about how to approach such a delicate issue without making it look like it's manipulating the numbers. Add in the debates about indecency, multicasting, threats from unlicensed wireless devices, digital must-carry (an issue that will not go away in the near future despite the FCC's wishes) and you have a recipe for gridlock.

Verizon's CEO was invited to the show to garner support from broadcasters for the phone giant's grand plans for video over IP, set to launch later this year. Anticipating a battle royale on Capitol Hill over franchise regulations and cable's argument that the playing field should be leveled when it comes to offering video services, Verizon chief Ivan Seidenberg attempted to take advantage of broadcasters' recent loss on digital must-carry to offer them another pipeline to provide multicasting and HD programming. It's a nice gesture, but it's still too early to determine who will be the bigger beneficiary.

And then, of course, there's the gear on the exhibit floor. And in the following pages, you'll see the most comprehensive coverage you can find anywhere. Pay particular attention to the STAR and Mario awards. The recipients, from the largest manufacturers to the smallest start-ups, represented the best in innovation this year.

Check out what the decisionmakers and the engineers had to say about the DTV transition and the impact of new technologies on broadcast. There was lots of news made at NAB this year, both on the show floor and in the conference rooms. As always, you can rely on TV Technology for the best NAB coverage.

Tom Butts
Editor
tbutts@imaspub.com

ERRATUM

In the article "Nextel to Address Broadcasters" in the April 6 issue of TV Technology, the photo was wrongly identified as the BMS "Truck-Coder II." The product is the "Carry-Viewer II." In addition, Tom Smith, the product manager for Broadcast Microwave Services was incorrectly identified.

LETTERS

Send to Editor, TV Technology at e-mail *tvtech@imaspub.com*

Television Free Flyer

Dear Editor:

I read Susan Ashworth's article "HD Gives NASA a New View" (April 18, 2005) with great interest, but this news isn't new.

It turns out that my former boss at NASA Headquarters, Robert (Bob) Shafer, director, Television Development Division, Office of Public Affairs, had conceived, arranged and managed four tests of HDTV image acquisition and transmission at Kennedy Space Center using (then) SMPTE 240M HDTV cameras to record Space Shuttle staging activity for the purposes of: (1) public dissemination of information (NASA is the only federal agency with a Congressionally mandated requirement to provide for the widest and most practicable dissemination of information to the public about its activities and the results thereof, Space Act of 1958 [as amended]), and (2) investigation and analysis of the integrity of the surfaces of the Space Shuttle during pre-flight and ascent. It might come as some surprise to you that these HDTV experiments were conducted from March 1989 through 1991. The March 1989 tests were transmitted via fiber and viewed in real time in Orlando, making this achievement a world record for longest transmission of an HDTV image over fiber at that time. The first (internal) presentation and playback of these HDTV images was to NASA Administrator Richard Truly and Headquarters staff in April 1989.

Yes, 1989!

In fact, I delivered papers and presentations of HDTV video to SMPTE and NAB on the results of these experiments as well as our 1991 tests of 45 Mbps compressed SMPTE 240M HDTV through C-band satellite, fiber, concatenated satellite-fiber links, as well as concatenated satellite-fiber links containing retransmitted (concatenated) compressed HDTV signals for the purposes of determining the image degradation after multiple codec generations.

And while the Columbia Accident Investigation Board—and Congress—publicly emphasize the desire to have had the means to view any potential damage to Columbia's control surfaces and leading edges prior to its disintegration over Texas, it was Bob Shafer who conceived and proposed the "Television Free Flyer" in 1990 to do precisely that. The Television Free Flyer (TFF) was designed to be launched from the Shuttle cargo bay as a remotely controlled free-flying EVA (extravehicular) television device that could fly around the Space Shuttle or the Space Station to acquire images about conditions before any EVA activity was planned. The TFF prototype proposed budget was $2 million dollars in 1990, but was rejected, not because of questions about its technical feasibility (it was well within the realm of feasibility, capability and rapid integration and deployment), but politics, and that is a long story. I wonder why no one—not even the news media—has picked up on the story of the 1990 Television Free Flyer or perhaps even re-energizing its development.

Bob Shafer, who passed away on Jan. 1, was easily one of NASA's brilliant stars. It's interesting to see that NASA is only now beginning to catch up to him.

Respectfully,
Tom Bentsen
(Director, Television Development Division, NASA, retired)

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TV Technology (ISSN: 0887-1701) is published semi-monthly by IMAS Publishing (USA) Inc. 5827 Columbia Pike, Third Floor, Falls Church VA 22041. Phone: 703-998-7600. FAX:703-998-2966. The international edition is published monthly along with the month's second domestic edition. Periodicals postage paid at Falls Church VA 22046 and additional mailing offices. POSTMASTER: Send address changes to TV Technology, P.O. Box 1214, Falls Church VA 22041. Copyright 2005 by IMAS Publishing (USA) Inc. All rights reserved. For reprints contact the author and TV Technology.

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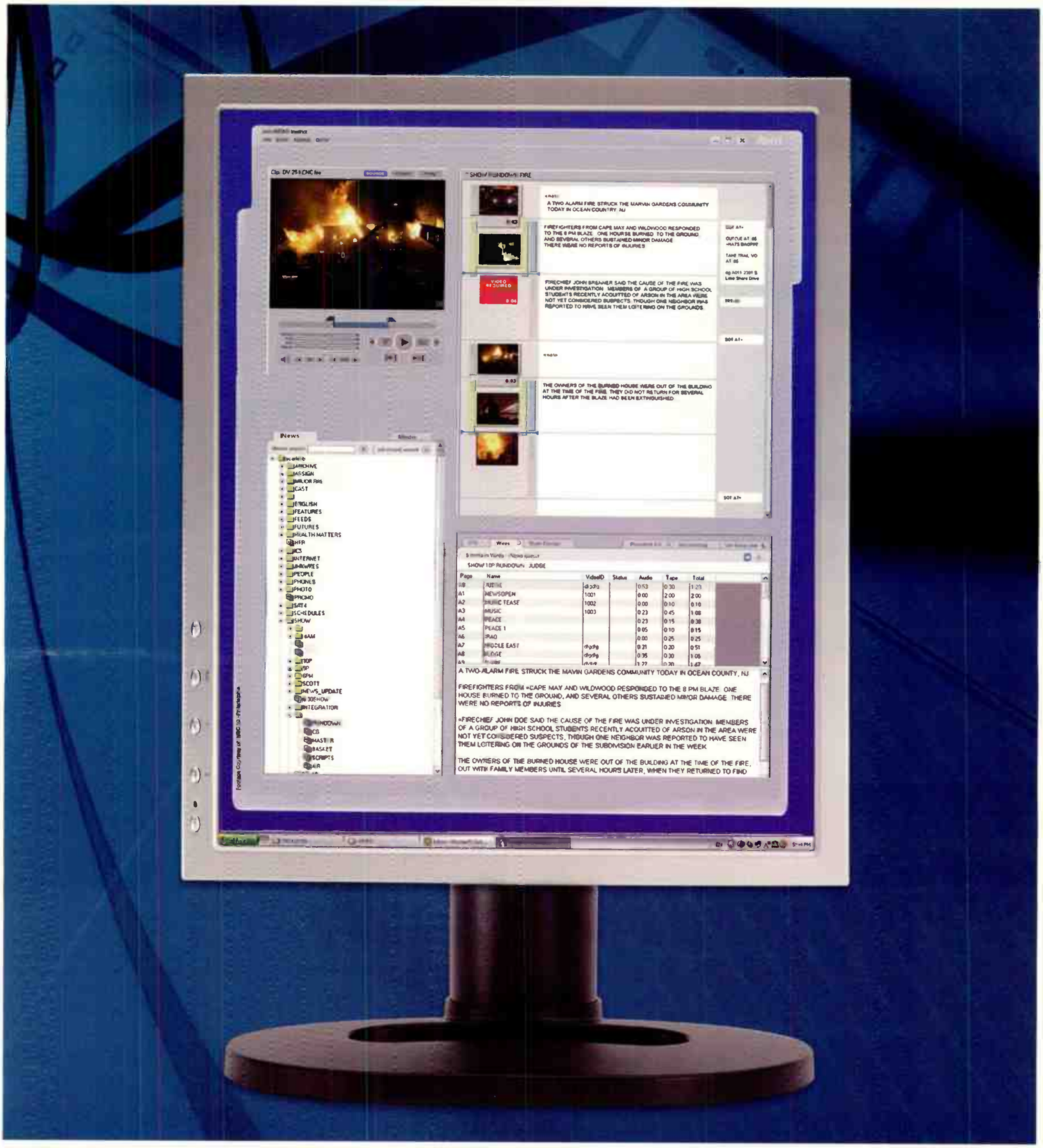

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Avid

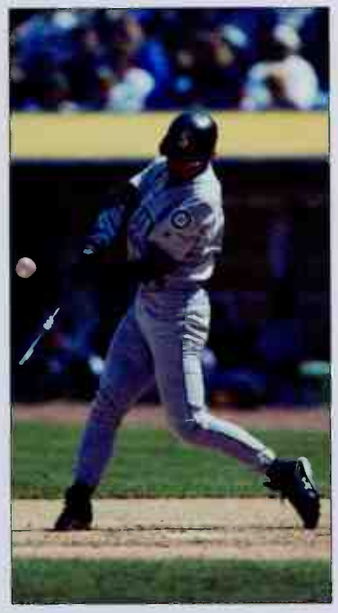
World Radio History

More Stadiums Made HD-Ready

TULSA, OKLA.

Vyvx has expanded its HD VenueNet Service to include 27 Major League Baseball venues.

The fiber-optic and satellite transmission provider's service enables broadcasters to transport live hi-def television feeds end-to-end to 270 Mbps over an MPLS infrastructure.



Fox Sports Net is using HD VenueNet to carry live, 720p HDTV broadcast feeds from stadiums countrywide to its Houston facility for more than 60 events during the '05 baseball season.

Vyvx—a subsidiary of WilTel Communications—has also expanded its SD footprint. The Tulsa, Okla. company now has 54 television switching centers across the nation, most recently in Tallahassee, Fla. Additionally Vyvx has expanded its MPEG-2 compressed fiber services to Miami.

The new HD VenueNet locations are: Oriole Park, Baltimore; Fenway Park, Boston; U.S. Cellular Field, and Wrigley Field, Chicago; Great American Ballpark, Cincinnati; Jacobs Field, Cleveland; The Ballpark in Arlington, Arlington, Texas; Comerica Park, Detroit; Minute Maid Park, Houston; Kaufman Stadium, Kansas City; Edison Field, Anaheim, Calif.; Pro Player Stadium, Miami; Miller Park, Milwaukee; Citizens Bank Park, Philadelphia; Network Associates Coliseum, San Francisco; Safeco Field, Seattle; Busch Stadium, St. Louis; Tropicana Field, Tampa, Fla.

Sports

Sports

Hi-Def Help Hits the Shelves

EAST GREENWICH, R.I., INDIANAPOLIS

For shooters who prefer watching video clips to reading the humdrum text of a user's manual, the "Hands on HDV: A Complete Guide to the HVR-Z1U and HDR-FX1," is for them. The guide is a DVD video tutorial geared towards videographers who want to learn the ins and outs of Sony's newest HDV cameras.

Produced by Vortex Media and JTV Productions, the video shares examples, tips and detailed instructions about setup and using menus, all from the point-of-view of an experienced ENG/EFP shooter.

Footage for the 90-minute "how to" DVD covers all types of environments—cityscapes, snowboarders flying down mountains and also close-up interviews shot in a studio.

In-depth instructions offer techniques for manual exposure, picture profiles, cineframe and cinematone and also color correction for special effects.

Meanwhile, the publisher of the "Dummies" books has also thrown its hat into the HDTV ring. Wiley Publishing and TTE—the manufacturer of RCA digital televisions—is publishing a pocket guide, "HDTV Buying Tips For Dummies" to help consumers wade through all the technical jargon related to digital and high-definition television.

The guide explains how to receive programming and offers details about the various display formats and options. Consumers can pick up the guide at retail stores along with a Digital TV Reference and Setup Guide for RCA digital and HDTV sets.

A similar guide "DTV for Dummies" was published by Philips Electronics in the late 1990s.

For more information consumers may visit the new Digital TV Center Web site, sponsored by RCA Digital TV, at *www.dummies.com/go/rca*.

Help Guides

Help Guides

Court Strikes Flag

WASHINGTON

The District of Columbia U.S. Circuit Court of Appeals rejected the FCC's broadcast flag requirement, ruling that the commission does not have jurisdiction to impose such a mandate.

"It's a slam dunk in favor of the consumer, library and civil liberty organizations. This case is about much more than the broadcast flag," said Gigi Sohn president of Public Knowledge. "I urge members of Congress to look at this case more broadly. It's about the future of Internet protocol-enabled communication."

NAB President Eddie Fritts begged to differ.

"Without a 'broadcast flag,' consumers may lose access to the very best programming offered on local television... We will work with Congress to authorize implementation of a broadcast flag that preserves the uniquely American system of free, local television."

MPAA President Dan Glickman, president of the Motion Picture Association of America (MPAA)—which led the charge for imposing the flag—echoed Fritts' sentiments.

"This is a disappointing decision and could create a digital television divide by slowing or eliminating access to high quality digital programming for some consumers."

Under the original rule, viewing and recording devices sold in the United States after July 1, 2005 would have been required to include technology that would detect the flag and limit retransmission.

The driving force for the creation of the flag was to prevent mass distribution of digital content over the Internet, but the petitioners—the Consumer Federation of America, Consumers Union, Electronic Frontier Foundation, Public Knowledge and several library associations—claimed the FCC didn't have the authority to impose the flag and that such a restriction could prevent consumers from sharing content electronically within their homes.

The court agreed.

Lauren Evoy Davis

Deadline Debate

WASHINGTON

A slew of tech companies along with several communications lobbies calling themselves the "High Tech DTV Coalition," called on Congress to set a hard date for the analog shutoff so they get on with slicing up the 700 MHz spectrum.

Members include Dell, Cisco systems, IBM, Intel, Microsoft, Qualcomm, Alcatel, Aloha Partners, AT&T, Texas Instruments, T-Mobile and at least half a dozen lobbies. No specific date was advocated, although the group's support for Dec. 31, 2006 push was reported.

Meanwhile, the Computer Systems Policy Project (CSPP) issued its own paper storm urging lawmakers to wrap the DTV transition. Intel, Dell, Motorola, Hewlett-Packard, Unysis, Applied Materials and IBM are among CSPP members.

The tone of the campaign suggested that freeing up the borrowed transition spectrum would generate jobs, technologies and broadband access to hoards of rural people. Specifics were scanty.

Meanwhile, broadcasters continued the channel-selection process that will ultimately free the transition spectrum, and the chief of the broadcast lobby would like to see them cut some slack, thank you very much.

"As these hundreds of local broadcasters are transmitting in both analog and digital signals, they are paying dual operating costs without any additional revenue source. Clearly, we have every incentive to see the transition ended and the analog spectrum freed for other uses," wrote NAB chief Eddie Fritts in his own missive to lawmakers. "However, as a matter of public policy, the corporate financial interests of a handful of technology companies should not trump the needs of American television viewers."

Deborah McAdams

Federal Frequency

Federal Frequency

World Radio History

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* Camera shown with optional lens, viewfinder, microphone and DTE module.

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World Radio History

A/V Vendors Bring Top Lines to InfoComm

Broadcast equipment makers increase InfoComm presence

by Robin Berger

LAS VEGAS

Thomson recently stated that the $17 billion ProAV market (according to the ICIA) could provide double-digit annual growth for its Grass Valley subsidiary over the next five years.

It's no wonder then that more broadcast equipment manufacturers are showing specially designed and priced versions of their broadcast and digital cinema lines at the 50th InfoComm show. Hosted by the International Communications Industries Association (ICIA) at the Las Vegas Convention Center, the weeklong event runs June 4-8 and is expected to draw more than 700 exhibitors and upwards of 25,000 attendees, said ICIA director Randal Lemke.

The attendees, Lemke said, are split into three main groups. "Trade" (manufacturers, dealers, designers and value-added resellers) comprises about 70 percent. The remaining 30 percent is split between "vertical markets" (corporate, education, government/military and other U.S. affiliations) and entities from about 70 foreign countries.

This year 350,000 square feet of the convention center's Central and North Halls will feature streaming media and digital signage, said Lemke.

Streaming media—now in its third year as a showcased technology at the show—will have its own pavilion, featuring production tools from Sonic Foundry and Serious Magic, among others.

A one-day conference program, "Beyond the Cineplex," will be dedicated to digital signage—a "very growing area in the retail and public information environment," said Lemke.

"It will look at all the digital cinema applications outside the theater—in the corporate market, government, military, theme parks, museums," he said—places where television producers could redeploy their products.

PROJECTORS

InfoComm is also the "leading show for any projection technology," said Lemke.

"Projectors are our main focus at Infocomm," said Jim Holzel, product line business manager, projectors, for Panasonic Broadcast.

Panasonic's PT-LB20 series simulates the output of a 3,000-lumen projector, he said, and is more affordable and easier to transport, weighing less than five pounds. Four models are available, ranging in price from $1,699 listed for the LB20-SU SVGA (800x600) model to $2,699 for the wireless LB20NVU. These and the plug-in LB20U ($2,299) are 2,000-lumen models. The 1,600-lumen LB20VU lists at $1,999.

Holzel believes that two of the series' features will be of particular interest to the InfoComm crowd: "Daylight View" and "Speed Start." The latter gets the image on-screen in two seconds and includes a one-touch auto setup with digital keystone correction.

Daylight View technology uses an ambient light sensor to pick up an environment's light intensity to correct the color saturation of the images it projects, adjusting the white balance for fluorescent and incandescent lamps. The technology also divides pale colors into six basic components for more precise control. "Nobody wants to dim the lights anymore," said Holzel, noting the tendency of some viewers to nod off in darkened boardrooms.

Sony Electronics will display its new SXRD "4K" large-venue projection technology, which can display full HD images in single-, dual- or quad-screen mode, according to Tom Mykietyn, general manager, display systems for Sony Electronics. He noted that the quad-screen mode accommodates "command-and-control applications where multiple, simultaneous views are required for monitoring and surveillance," as well as multiple feeds for gaming venues, entertainment complexes or live events. Sony will discuss applications of SXRD technology on Monday afternoon, June 6, in the Microdisplay and Engine Review session of InfoComm's Projection Summit Panel at the Hilton Pavilion adjacent to the LVCC.

The company will also show two portable projectors, the VPL-CX20A and VPL-CS20A, which claim to be the smallest on the market. In addition, its VPL-CX76 and VPL-CX86 will exhibit improved versions of Sony's award-winning "Airshot" wireless presentation system.

JVC executive Robert Mueller will discuss future business trends in the ProAV market.

JVC will feature its high-resolution, three-chip DLA series of large-venue projectors (introduced three years ago), which boast 1,920 x 1,080 resolution. The company's leading model, the 187-pound DLA-QX1G (7,000 ANSI lumens, 1,000:1 contrast), $225,000 list, is marketed as ideal for applications ranging from medical imaging to GIS/mapping displays to HDTV theater presentations.

The Thomson Grass Valley Turbo iDDR, which stores up to 40 hours of material, will be on display at InfoComm.

"At InfoComm we'll be showing two DLA-QX1G projectors displaying 3D images—six megapixels on the screen," said Dave Walton, JVC general manager of corporate communications. "The 3D images will be a combination of graphics and movie clips."

The DLAHD2K has "the same resolution, but smaller footprint," said Walton. It lists at $29,950, has a 2,000:1 contrast ratio and weighs less than 14 pounds.

MULTIPURPOSE DEVICES

JVC also intends to show the various resellers, integrators and custom installers its SR-DVM70US Pro Editing production deck and its GY-HD100U camcorder.

Walton described the SR-DVM70US as a "Swiss army knife kind of product" capable of standalone editing, dubbing, production and viewing mini-DVDs or DVCAM cassettes. He envisioned a great appeal to corporate, educational and production markets, thanks to its versatility and ability to make multiple, high-quality copies at high speed that are "compatible with every other player out there."

The GY-HD100U is an affordable ($6,295 list), professional three-chip, 24p, HD camcorder built to accommodate interchangeable lenses, he said. It comes with a standard 16:1 Fujinon lens, and JVC offers an optional 13:1 wide-angle Fujinon lens. In addition, he said, "an adapter allows you to use a half-inch bayonet-mount lens," and "a third-party adapter allows the use of a prime lens normally used on film cameras."

On June 7, JVC's chief operating officer Robert Mueller will participate in the Manufacturers Forum, discussing trends affecting business prospects.

The company's IP Project Manager, Chris Zenaty, will hold daily 30-minute presentations on IP security at the InfoComm Command Center.

IP, SERVERS & REMOTE

Marking its official entry into the ProAV market, Thomson's Grass Valley division will introduce its Turbo iDDR (intelligent digital disk recorder), a spin-off of its iVDR for the broadcast market, introduced at NAB2003. Starting at $9,995, the Turbo iVDR is designed specifically for event, corporate, institutional and religion-oriented entities and can hold up to 40 hours of material, plus capture and deliver content in multiple formats.

The company will also feature its line of user interface devices made by Gyration, a Silicon Valley manufacturer acquired by Thomson last August.

Sony Electronics will introduce its IPELA line of integrated visual communications systems to corporate, education, medical, retail and houses-of-worship customers.

"The need for flexible and scalable communications technologies has grown with the rise in applications such as distance learning, IP surveillance, Web-based training and centralized management of satellite offices or stores within a chain," noted Michael McCausland, vice president of Visual Communications. "Companies can also reduce operational costs through the use of IP networking and communications."

The company will provide more information through two videoconferencing panels: Collaboration in Business and a Lunch & Learn panel, "Collaborative Conferencing Industry." ■

"The need for flexible and scalable communications technologies has grown."

—Michael McCausland, Visual Communications

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World Radio History

More Action

CONTINUED FROM PAGE 1

Wavelength-division multiplexing is nothing new in and of itself, but Telecast introduced a WDM device that makes it possible to transmit up to eight signals on a single fiber over any existing fiber-optic network. Evertz also expanded WDM for use with L-band distribution and routing systems.

Many of the innovations on the show floor reflected the adoption of HD and IT in the broadcasting industry. The Snell & Wilcox Kahuna was innovative in its capacity for integrating standard-definition material into hi-def material with no upconverting or scaling. The Belden 10 Gigabit Ethernet system included equalizing circuit boards built into the cable connectors. Ikegami took EditCam hi-def, as did Panasonic with P2 and Sony with XDCAM.

CH, CH, CH, CHANGES

As for the notion that broadcasters are standing in the way of entrepreneurs, there are few places where the entrepreneurial spirit is more evident that at an NAB convention.

Seven years ago, Jay Coley and the rest of the folks at Editware were where the Helissio guys were this year—at a card table. Back then, the business was based primarily on products salvaged from the old Grass Valley Group, he said. Editware had an honest-to-goodness booth in South Hall this year, and was demonstrating a partner technology with Prime Image in Central Hall.

"Today, our business is 95 percent due to products developed at Editware within the last three years," Coley said.

Avid was on a card table in 1989. This year, they had enough floor space to bring $3,000 a month in a New York high-rise. Telestream was three-ring notebook in 1998. This year, the company occupied 900 square feet in the South Hall.

In all, more than 1,400 exhibitors showed up for the annual television pilgrimage in Las Vegas, and something like 104,000 people came to see their stuff, breaking the 100,000 mark for the first time in four years.

Greg Hansen manned the Anixter booth in Central Hall. Hansen, marketing business manager for the wire and cable distributor based in Glenview, Ill., said NAB2005 had the atmosphere of pre-9/11 days, before the 'Net economy went south, and people's aerophobias were fully engaged.

"It seems like it's made a recovery," he said. ■

(Clockwise from left) Jordan Lane puts a high arch on his hard drive at the Storage Network Solutions Hard Drive Toss contest; nearly everything was a television in the NextGen Home; Terry Loseke of InPhase Technologies shows off the company's 300 GB disk that uses holographic technology to store more than 35 hours of HD footage on a disk; more than 100,000 people made the trek to Las Vegas for NAB2005.

World Radio History

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*Viewable area measured diagonally. Monitor images simulated.

World Radio History

Verizon Chief Asks for Broadcasters' Help

Lobbying muscle in exchange for carriage of multiple signals proposed

by Deborah D. McAdams

After telling audience members at the NAB2005 opening ceremony to please turn on their cell phones and pagers, Verizon Chairman and CEO Ivan Seidenberg extended something of an invitation to broadcasters. Having spent about $70 billion on a nationwide fiber plant, Verizon is on the verge of getting into television—for real.

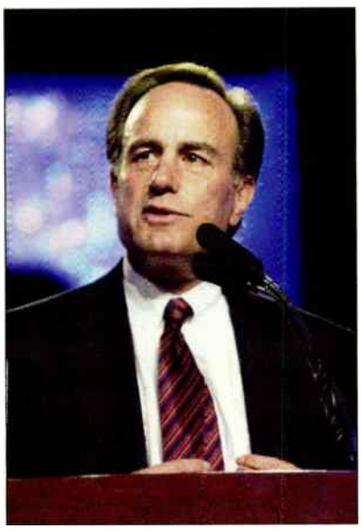
"These new broadband networks are launching us once and for all into the business of television," Siedenberg said to ballroom full of people who've seen telco TV efforts flame out again and again in the past. None of those previous initiatives had the muscle that Verizon is putting into its video push.

The company's broadband wireless EV-DO network, which carries the Vcast video service to cell phones, is expected to have 150 million subscribers by the year's end.

Verizon's fiber network—FiOS—now offers 'Net access at 30 Mbps download, 5 Mbps upload, Siedenberg said. FiOS TV, launching this year, will download at 100 Mbps and upload at 15 Mpbs, he said. FiOS TV service is expected to reach 3 million homes by the end of 2005, he said.

"FiOS TV will have unlimited capacity for HD programming," he said. "We can offer HD and DVR functionality throughout the house."

Having finally overcome the hurdle of building a massive fiber network, the company faces yet another obstacle on the ground. Many municipalities are demanding franchise agreements for the TV service, in addition to any phone franchise deals already in place.



Verizon chief Ivan Seidenberg asked for the NAB's help on obtaining a national franchise deal in return for multicast carriage on Verizon's fiber network.

"The biggest barrier to this business is franchises," Seidenberg said. The company is currently negotiating franchise agreements on the state and local levels, which is slow going.

"We want help with a federal agreement," he said. In return for an assist on Capitol Hill, Seidenberg said Verizon's fiber network would have plenty of room for digital multicast channels.

"We need the content our customers need the most, and that means you," he told broadcasters. ■ ©2005 NAB

"We need the content our customers need the most, and that means you."

—Ivan Seidenberg, Verizon

Broadcasters honored at NAB2005

Two awards were given out at the NAB2005 opening ceremony.

Howard University in Washington, D.C., received the Spirit of Broadcasting Award. Howard President Patrick Swygert and alumna and choreographer Debbie Allen were on hand to accept. Swygert joined the other speakers in commending Fritts, whom he credited with helping create the NAB Media Sales Institute at the Howard University School of Communications.

"Eddie Fritts is a wonderful friend of Howard," Swygert said.

The Distinguished Service Award went to Lowry Mays, chairman of Clear Channel Communications. Mays, whose company now owns 1,200 radio stations and several TV stations, actually intended to be a banker. He wound up in the broadcast business when a customer defaulted on a loan for a radio station.

"Lowry, for an accidental broadcaster, you're not doing half bad," said former President George H.W. Bush in a video statement.

Mays recalled starting out with 13 employees, and marveled at now having 50,000 people working for Clear Channel throughout the world. He thanked those employees as well as his family members for their work.

He also recalled the time the NAB held its show in the Atlanta Convention Center during a Grateful Dead concert in the same facility.

"I saw a lot of tie-dyed shirts everywhere, but I wasn't sure if I could find the broadcasters," he said. ©2005 NAB

Deborah D. McAdams

Fritts Bids Adieu at NAB2005

Veteran NAB chief hosts his last big show in Las Vegas

by Deborah D. McAdams

Reports that the NAB couldn't lobby itself out of a paper bag have turned out to be erroneous. That was former Sen. Bob Packwood's assessment of the NAB in 1982, the year Eddie Fritts became president and CEO of the association.

"I took that as a personal challenge," Fritts said in his final opening address as chief executive. He announced in February he would step down when his contract ends next April.

Fritts is credited by many with making NAB a driving force in Washington, D.C. He was instrumental in obtaining satellite and cable carriage, eight-year license terms and digital transition spectrum.

Edward O. Fritts, NAB president and CEO

"He deserves the thanks of every TV and radio broadcaster for his many victories on Capitol Hill, at the FCC and in the courts," said Phil Lombardo, NAB board chairman.

"These will not be easy fights," he said, urging broadcasters to "speak with one voice," to legislators.

"He deserves the thanks of every TV and radio broadcaster for his many victories on Capitol Hill, at the FCC and in the courts."

—Phil Lombardo, NAB board

In his farewell address, Fritts said the NAB's work was far from done, with the DTV deadline, the digital radio transition, indecency legislation and the telecom rewrite on the horizon.

Fritts also told broadcasters to get on-board with new technologies and to recognize the potential of extending local content beyond the TV set. ■ ©2005 NAB

World Radio History

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World Radio History

Top Ad Execs Ponder Broadcast Future

Media buyers tell broadcasters to keep better tabs on traffic

by Scott Fybush

The long relationship between broadcasters and advertisers needs to see some big changes in the next few years, according to top executives on both sides who took part in "Straight Talk from the Top," a session of the Broadcast Management conference at the NAB show.

For both broadcasters and advertisers, the splintering of what was once a mass audience of network TV viewers is a big noted as well.

(L to R), Jack Myers, author of the Jack Myers Report; Burtch Drake, president and CEO of the American Association of Advertising Agencies; Radio Advertising Bureau President and CEO Gary Fries; Bob Liodice, president and CEO of the Association of National Advertisers and Christopher Rohrs, president of the Television Bureau of Advertising, discuss the changing landscape of broadcast advertising.

EXPLORING OPTIONS

"Advertisers have recognized that the fragmented media landscape is an opportunity," said panelist Bob Liodice, president and CEO of the Association of National Advertisers.

"For the first time, advertisers are interested in exploring alternatives to television," said Burtch Drake, president and CEO of the American Association of Advertising Agencies.

Drake said many advertisers are now asking agencies to produce plans that don't include any television buys, focusing instead on media that can better target specific demographic and geographic audiences.

One problem, said Liodice, is that network television advertising has become more expensive even as its reach has declined, sending many TV advertisers to less expensive local TV or cable buys.

That's leading to changes in network programming, Liodice said, as expensive scripted dramas and comedies give way to cheaper reality shows.

On the radio side, said Radio Advertising Bureau President and CEO Gary Fries, the industry has responded by conducting new studies to show advertisers how well the medium works.

Broadcast groups, led by industry giant Clear Channel, are moving the industry from 60-second spots to 30-second spots and reducing the length of commercial pods.

FUTURE, PAGE 18

New TV Revenue Models Discussed

Advertisers look to hone in on tighter demographic groups

by Anne-Marie Smith

Personal video recorders are disrupting the broadcast business, but in disruption there is opportunity.

At least according to Duane Varan, moderator of "Beyond: 30, New Models of Television Advertising," one of the sessions held at the NAB show. Varan, director of the Interactive Television Research Institute at Australia's Murdoch University, said PVRs are predicted to be in 20 percent of U.S. households by 2006.

"We're reaching the point where advertising avoidance is becoming habitual," Varan said. He and the four other panelists urged broadcasters to start looking to new formats to entice advertisers to stay with the medium.

Traditionally, "the larger the audience, the greater the value. The new advertising model is not exposure, but engagement," he said.

Rick Mandler, vice president and general manager of enhanced television for the Disney Internet Group, called DVRs "the scary thing that we're all worried is going to kill our business."

However, he said ABC saw a dramatic increase in advertising results with interactive programming, where viewers are both logged onto a PC and watching TV at the same time. He predicted an increase in interactive programming, more live programs and the development of new formats within technologies new to broadcasters, such as cell phones.

For return on investment for advertisers, "TV isn't living up," said Barbara Bacci Mirque, vice president of the Association of National Advertisers. "And, if TV doesn't change, guess what, advertisers will be leaving."

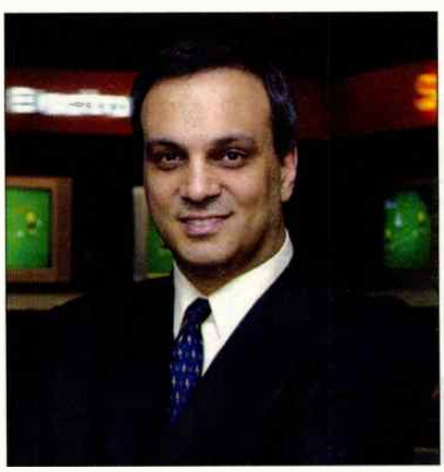
Mirque said new video-on-demand and enhanced television formats give advertisers more opportunities to target specific households with less waste.

Mandler said the problem of personal recording was an interesting one because cable and broadband providers, as well as TiVO and other video recording services are also in the broadcast business.

"They are in the television business," he said. "They are providers of programming, too."

Possible new ad formats include front-loaded spots that a viewer will have to watch to access a program, static images or logos embedded into an ad or during fast-forwarding, and consumer choice of commercials.

> **"We're reaching the point where advertising avoidance is becoming habitual."**
> **—Duane Varan, International Television Research Institute**



Duane Varan, director of the Interactive Television Research Institute at Australia's Murdoch University

The last example could mean a boost to local advertisers, he said. For example, a viewer in the market for a new car would likely choose to watch a nearby car dealer's ad, Mandler said.

Shelly Palmer, president and CEO of Palmer Advanced Media, showed print ads from the 1950s promoting "clickers" to avoid commercials and said, "Ad skipping is not new."

However, he said, the future of TV is in advanced media formats including virtual channels, wireless communication, iTV gaming, interactive program guides and VOD.

MEASUREMENT

All of the panelists agreed that pricing in the new formats is difficult, in part because the industry has no good method of measuring audiences in the new media.

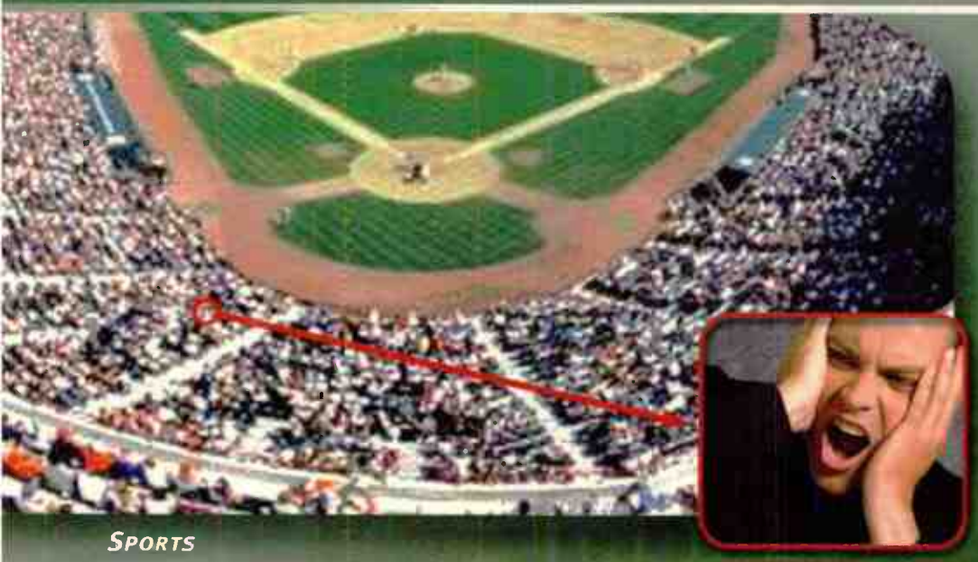
Because advertising is likely to be more expensive in more targeted formats, "accountability is the top priority of advertisers," said Mirque, of the advertisers association.

Most of the panelists questioned the reliability of available DVR surveys because early users tend not to be a typical sample. But, a limited ABC/ESPN study showed that a third of TiVO subscribers surveyed said they did not skip commercials at all.

Still, Varan predicted the eventual erosion of network brands if those broadcasters fail to begin looking for new methods to impact viewers with advertising. ■ ©2005 NAB

World Radio History

Canon's 3-Chip PTZ Camera System Adds A New Dimension To Quality Production.



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World Radio History

Gallagher, Adelstein Debate TV Issues

Unlicensed device makes surprise appearance in audio system

by Deborah D. McAdams

A surprise guest showed up at the Regulatory Face-Off at NAB2005. As Marsha McBride, Jonathan Adelstein and Michael Gallagher attempted to engage in a debate about media regulation issues, something started causing pops and clicks into the audio system.

The trio—FCC Commissioner Adelstein; McBride, FCC executive vice president of legal and regulatory affairs; and Gallagher, administrator of the National Telecommunications and Information Administration—intrepidly carried on. McBride, who moderated the session, asked both men to address broadcaster concerns about interference from unlicensed devices.

UNLICENSED SPACE

In a joint filing with the FCC, the NAB and the Association for Maximum Service Television ask that unlicensed devices not be cut loose in the television spectrum, particularly during the DTV channel-selection process.

Adelstein acknowledged that the FCC has a responsibility to mitigate situations where interference occurs.

FCC Commissioner Jonathan Adelstein

"One of our jobs is to protect broadcasters and licensees from interfering with one another," he said. "That was the impetus for the creation of the FCC."

Gallagher was more enthusiastic about the potential for unlicensed devices to advance innovation and benefit U.S. businesses. "We've enjoyed a wonderful surge of creativity in the unlicensed space in the last four years," he said.

A bit later in the session, a member of the A/V crew walked up to the stage and said something to the panel about a wireless device causing the audio noise, prompting an observation from McBride.

"The courts have given us fragile authority to enforce indecency rules."
—FCC Commissioner Jonathan Adelstein

"There's interference already from these devices," she said, much to the delight of broadcasters; and especially MSTV chief David Donovan, a vociferous opponent of unlicensed devices.

On the subject of establishing a hard analog shut-off date, Adelstein was cautious.

"Millions and millions of analog sets are going out of stores, and at some point, someone's going to be very disappointed out there," he said. "We do want to get to a hard date, and to get more spectrum for ultrawideband and wireless, but we don't want to disenfranchise the people with those analog sets."

Gallagher replied that the president's budget empowers the FCC to assess $500 million in fines on broadcasters who remain on the analog spectrum after 2006.

"The desire is that first responders have the tools they need," he said.

Gallagher also mentioned the big batch of emerging technologies waiting for spectrum space, including 802.11, MIMO (multiple in/multiple out) WiFi and UWB.

He advised broadcasters to consider ways to leverage these and other new distribution technologies, rather than cast a hairy eyeball at them.

SlingMedia was one that he described as "what TiVo did for time, this does for place."

And with BitTorrent commanding an estimated one-third of the file-sharing traffic on the Internet, "I guarantee you, the show that was on last night is on the Internet today," he said. "This is innovation. Some of it has applications that can be harmful, but whether it's good or bad is up to the people in this room."

DEBATE, PAGE 20

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World Radio History

Multimedia Players Ponder IPTV Options

Video delivery via Internet Protocol is taking off throughout the world

by John Merli

First, there was the Internet, or at least a crude form of it, strained through tedious analog dial-up service. Today there is broadband, offering a far better online experience with speed and improved video, although even most broadband video has a ways to go to equal either digital or analog TV quality.

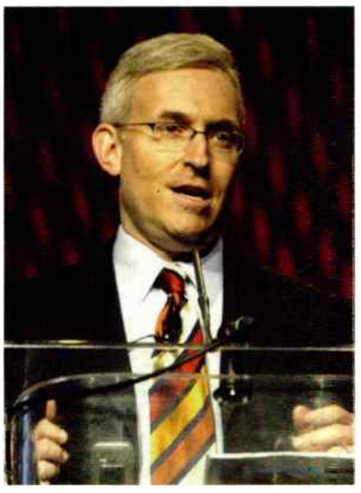
Now linking the online experience with what most consumers consider traditional "television," and using the Internet as a technical backbone, is IPTV. The timely topic was addressed at "IPTV—The Technology and Market Outlook," a Super Session at MultiMedia World, sponsored by Widevine Technologies, held at NAB2005.

IPTV (Internet Protocol television) is still very much in its infancy, although there are several players eager to become early innovators, including content providers, cable, software companies, TV networks and telcos.

"Arbitron is about to begin doing out-of-home ratings in the near future," CNN President Jonathan Klein told the SRO audience, "and that could change a lot of things."

Klein's cable network is very interested in delivering its news content to a variety of IP-enabled devices—and from a variety of sources. Some prototype schemes have been in beta testing for many months.

IPTV and perhaps other still-unknown delivery technologies will also signal a new era of devising the content itself, Klein said, similar to the online blogging that began an enterprise of nonjournalists.



Jonathan Klein, president of CNN

"When that tsunami hit, there was virtually no professional video available for CNN or anyone else. All of it was shot by amateurs. Did anyone care?" Klein asked.

He suggested the potential immediacy of IPTV technology, as well as the random in-place inclusion of a vast pool of possible "reporting sources," are tailor-made for these types of news events.

IPTV operates both upstream and downstream, like the Internet itself, allowing for extremely sophisticated interactive schemes down the road. But unlike the Internet, IPTV content will be delivered on private, closed and secured networks.

"Arbitron is about to begin doing out-of-home ratings in the near future, and that could change a lot of things."
—Jonathan Klein, CNN

Jeff Weber, IP operations vice president for SBC Communications, said 61 percent of his retail customers are already bundling at least one service (other than standard voice) on their wired lines, including broadband. SBC currently envisions four high-quality video streams in its IPTV scenario, including one hi-def venue.

So far an estimated 136 telcos in North America have begun serious IPTV initiatives, with more coming onboard every month in Europe and Asia, especially in South Korea.

Dick Anderson, general manager of IBM Media & Entertainment, said "Digital media like this has been 'coming' at least three times in my career, but I think this time it may really be coming."

Anderson encouraged media professionals to "experiment to exceed your customers' expectations." He also said that IPTV providers should be willing to partner with others to succeed in this new media universe, while being sure to also make it simple.

Some panelists also stressed that regardless of how cool and innovative any new content-delivery system may be, it still comes down to the content.

CNN's Klein, while conceding that there are a lot of elements in today's TV news environment that have to be improved upon, said one basic standard, at least for news, should always remain the same.

"Viewers flock to quality," he said." "Why run the other way?" ■ *©2005 NAB*

Future

CONTINUED FROM PAGE 14

"We have to fix the clutter issue because we're blowing our brains out," said Liodice. "We're watching consumers run away from media because there's too much advertising."

That advertising also needs to be of better quality, Fries said.

"We've really had some cheap production; lousy ads. There's got to be better creativity," he said.

Fries said the rollout of HD Radio would offer advertisers more opportunity to use radio as a targeted medium, with stations being able to offer multiple streams of programming.

Panelist Christopher Rohrs, president of the Television Bureau of Advertising, said more research is still needed to determine just how much advertising consumers will tolerate.

SPOT TRACKING

Rohrs also called on broadcasters and advertisers to work together to develop a standard "UPC-type code" to standardize labeling and tracking of spots across the industry.

"This is brutally hard work, but it's critically important," he said.

Rohrs said that expanding frontiers remain for broadcasters, including the potential for growth in ad sales on local stations' Web sites.

"I'm very optimistic that that's a big part of the future," he said.

Drake called upon broadcasters to improve their "accountability" to advertisers by offering more detailed data on their audiences. However, he also said he remains "bullish" on the future of radio and television as advertising media.

"We have to fix the clutter issue because we're blowing our brains out."
—Bob Liodice, Association of National Advertisers

"I don't see them going away any time soon, TiVo and other technologies notwithstanding," he said. "When all is said and done, network TV is still the most efficient way to reach a mass audience." ■ *©2005 NAB*

World Radio History

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World Radio History

Lawmakers Question 2006 Analog Shut-off

No deadline consensus evident at NAB2005 Congressional breakfast event

by Leslie Stimson

The folks that went to the congressional breakfast at NAB2005 knew they were in for a rollicking time when NAB Joint Board Chairman and CEO of Citadel Communications Phil Lombardo cracked, "Here is Sam Donaldson, the most laid-back, sensitive journalist." The former ABC News chief White House correspondent moderated the event.

On the panel were seven members of the 109th Congress: Senate Commerce Committee member Conrad Burns (R-Mont.), House Commerce Committee Chairman Joe Barton (R-Texas), House Judiciary Committee Chairman Jim Sensenbrenner (R-Wis.), House Telecommunications Subcommittee Chairman Fred Upton (R-Mich.), and House Commerce Committee members Michael Bilirakis (R-Fla.), Gene Green (D-Texas), Greg Walden (R-Ore.) and Eliot Engel, (D-N.Y.).

The conversation was dominated by the digital transition and whether to set a hard date for stations to give up their analog channels. Lawmakers want the FCC to repurpose TV analog spectrum for wireless communication needs.

(L to R) Rep. Joe Barton (R-Texas) and Sen. Conrad Burns (R-Mont.) spar over a hard date.

Barton said he and Upton are negotiating with Democrats to introduce legislation some time in May. It would propose a hard date of Dec. 31, 2006 for returning analog channels for television stations that can claim 85 percent of their audience is reached by that station's digital signal.

Barton also indicated that he would be amenable to setting a later deadline, so long as it wasn't several years.

The bill would include a rebate program for set-top boxes for low income families, Barton said, at roughly $35 to $55 apiece. The set-top boxes would allow those who have an analog TV to receive digital channels. Lawmakers are working with NAB on the issue, he said.

USING MARKET FORCES

Barton had a hard time convincing fellow panelists of his plan, though he insisted, "once we get through the transition it will be a good thing."

Burns isn't a fan of an analog hard date. The deadline was specified when lawmakers crafted the revised Telecom Act 10 years ago, but Burns, a broadcaster himself, said, "we never got a good definition of what 85 percent is."

"What's wrong with market forces and why does it have to be subsidized," asked Burns rhetorically. "If we get the money, we're just going to spend it. It won't get us to where we want to go."

He said many consumers will just lose over-the-air television service if broadcasters have to transition by a certain date, "especially in the West where you haven't taken care of translators, there will be a lot of televisions turned off."

"We've got to make sure we don't turn off TV sets when we make this conversion," Sen. Burns said.

Asked whether he supports requiring cable and satellite systems to carry all broadcasters' digital signals, Upton said that "fits in with the transition. I believe conversion at the head-end is more preferable."

Bilirakis said the hard date issue is probably the top issue for TV, which has been "awfully silent" on the issue.

"You people are not using your TV forum enough," he said, encouraging broadcasters to explain the issue to the public.

Several lawmakers pushed for a public education campaign about the cut-off so consumers are not caught off-guard. New Yorker Engel opposes a hard cut-off date and said lawmakers need to consider the needs of broadcasters by region.

Local broadcasters in New York City, for example, lost towers and associated transmission equipment on 9/11 when the World Trade Center was destroyed. Rebuilding that transmission equipment has been costly.

ANALOG, PAGE 26

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Debate

CONTINUED FROM PAGE 16

Verizon chief Ivan Seidenberg had a similar message for broadcasters in his keynote address, suggesting that telco TV might be complimentary, and not merely competitive, to broadcasting. Adelstein held similar sentiments. "This can be a new opportunity for broadcasters," he said.

Radio broadcasters are under similar pressures from satellite radio providers. Gallagher noted that he possessed a "MiFi," a portable XM satellite radio device.

"Anyplace where there's radio frequency, there's going to be competition," he said.

Adelstein said the transition to digital would be the key to allowing terrestrial broadcasters to stay competitive with satellite.

Then there were the content conversations—VNRs and indecency. Adelstein said the law required broadcasters to publicly disclose paid placements and engage in "reasonable diligence" to find out the source of information.

On holding cable to the same indecency standards as broadcast, Adelstein said, hey, not so fast. The legal precedent established in the Playboy case directed the government to adhere to the least intrusive means of regulation.

"The courts have given us fragile authority to enforce indecency rules," he said. "If the court finds what we do unconstitutional, it would take a constitutional amendment to change it."

Content regulation may become even more difficult to defend in court in the future, he said. "The underpinnings of some of these cases are going to be undermined as we move into the digital age. There will be more tools in the hands of parents to control what [kids] see," he explained. "People have to take charge of their own television. The government can't substitute for parents." ■ ©2005 NAB

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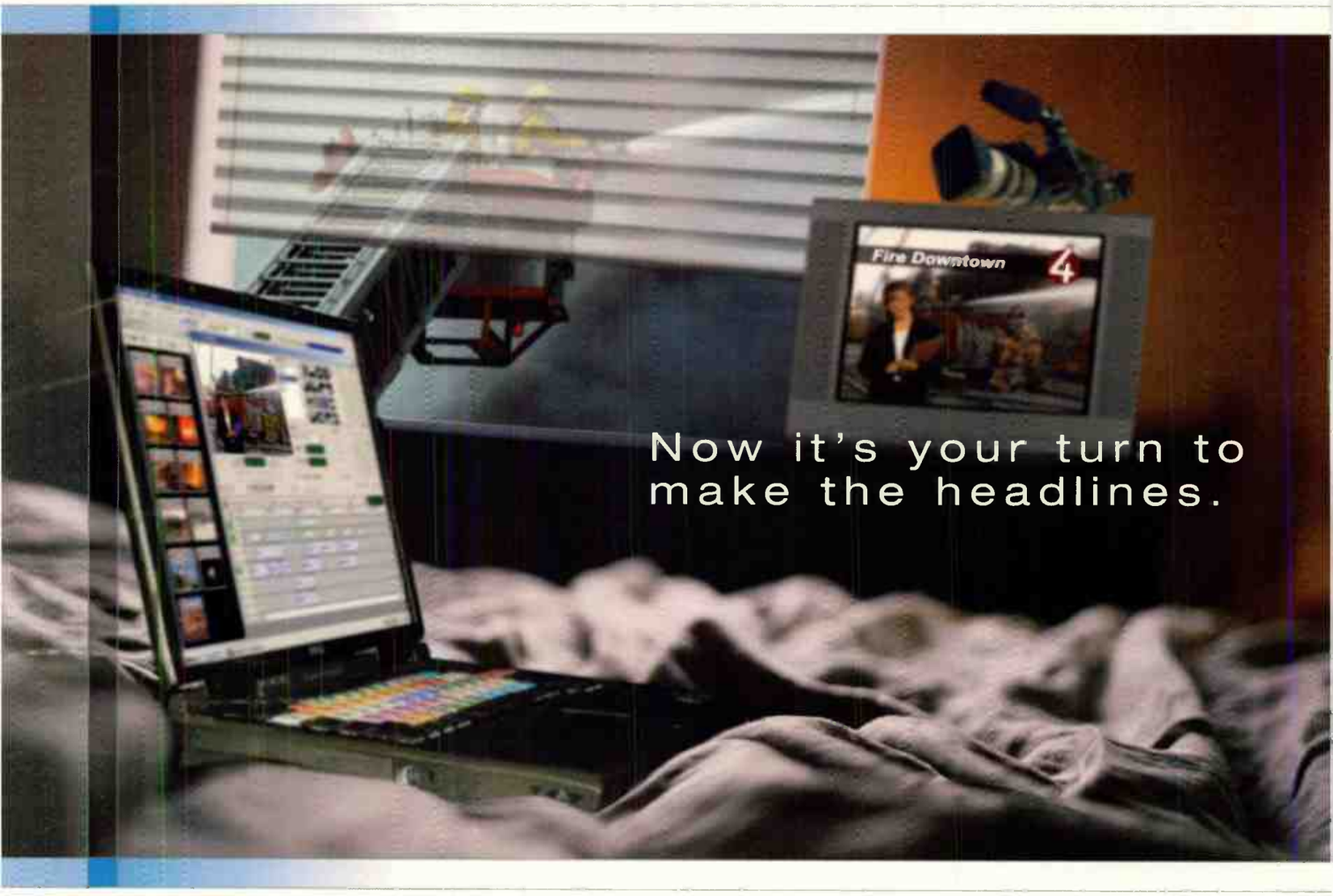

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Digital Revolution: More to Be Done

Continued sale of analog television sets cited as a boondoggle to transition

by Susan Ashworth

The digital television revolution has made remarkable progress. But it's also facing a bit of a quandary.

That was the assessment from several experts at "DTV Rundown: Revving Up Your Transition," a session at NAB2005, in which some well-known folks in the broadcast industry debated what next steps the industry should now be taking.

And the first step—refocusing on the consumer.

"This revolution needs to be as much about consumer pull as it is about government mandate and broadcast push," said Brent Magid, president and CEO of Frank Magid Associates, a research and consultation firm.

While many consumers are aware of high-definition programming, a far greater minority of consumers are not as aware that a drastic transition is taking place—the phasing out of analog television.

"Even consumers who are aware of HD broadcasting are often more aware of HBO's HD programming than of broadcasting's," Magid said. "That needs to change," he said, and broadcasters have the perfect medium to bring that to fruition.

"We've got to hunker down and stop fighting with one another."

—Jim Goodmon, Capitol Broadcasting

Jim Goodmon, president and CEO of Capitol Broadcasting, whose station WRAL was the first to broadcast a digital signal, put it more bluntly.

"We like to call it 'stop the bleeding,'" he said. "We've got to stop selling analog sets, and need to encourage people to buy digital sets." Goodmon is one of several people who have suggested the implementation of a labeling system on sets.

Analog sets are still selling because there is still a small market for them, "whether it's as a smaller set for the kids' room or a set to watch DVDs," said John Taylor, vice president of public affairs and communications for LG Electronics.

But that's about to change, he said.

"The majority of Americans have purchased their last analog set," he said. "The majority of sets sold in 2005 will be digital. And we'll get to the point where you can't buy an analog set any longer."

In a long-familiar refrain, the session's panelists said the real sticking point was programming.

And, added Goodmon, an environment of open dialog, which he likened to the set of team-building exercises at his company to get through tough situations and find solutions.

"We've got to hunker down and stop fighting with one another," he said. "We need to set a date and get things done."

All the panelists agree that DTV is a revenue opportunity, and "HD represents a rebirth of over-the-air service," said Dick Wiley, moderator of the panel and a partner with Wiley, Rein and Fielding in Washington, D.C.

"I think it's the best thing that's been done for broadcasting," Goodmon said. "It allows us to be competitive, stop the erosion of viewership, and offer new multicasting opportunities. It's what's going to keep us in business over the next 50 years."

Rick Chessen, assistant chief of the Media Bureau at the FCC, rounded out the panel. ■ ©2005 NAB

NAB Blasts the CEA's Tuner Petition

Lobbies wrestle over phase-in dates and final deadlines

by Anne-Marie Smith

NAB called on the FCC to reject a petition by the Consumer Electronics Association to delay the phasing-in of digital television.

The petition, filed last November, asked the FCC to eliminate a requirement that 50 percent of all 25- to 36-inch television sets be capable of receiving digital over-the-air signals by July 2005.

"If CEA's stated goal is to speed the DTV transition, then the last thing it should be seeking is a delay only to sell more analog TV sets," said NAB President Eddie Fritts.

NAB and the Association for Maximum Service Television filed comments with the FCC during NAB2005 urging the FCC to reject the petition. NAB supports the 50 percent requirement by next March. The organization also supports moving ahead the date of the 100 percent DTV mandate. The CEA petition does suggest that the FCC change the date for 100 percent of those sets to have DTV capability to March 2006 from the current requirement of July 2006.

NAB said local broadcasters are leading the transition to digital and high-definition television, with 1,500 stations now on-air in digital and a "huge increase" in HDTV programming in primetime, late night and major sporting events.

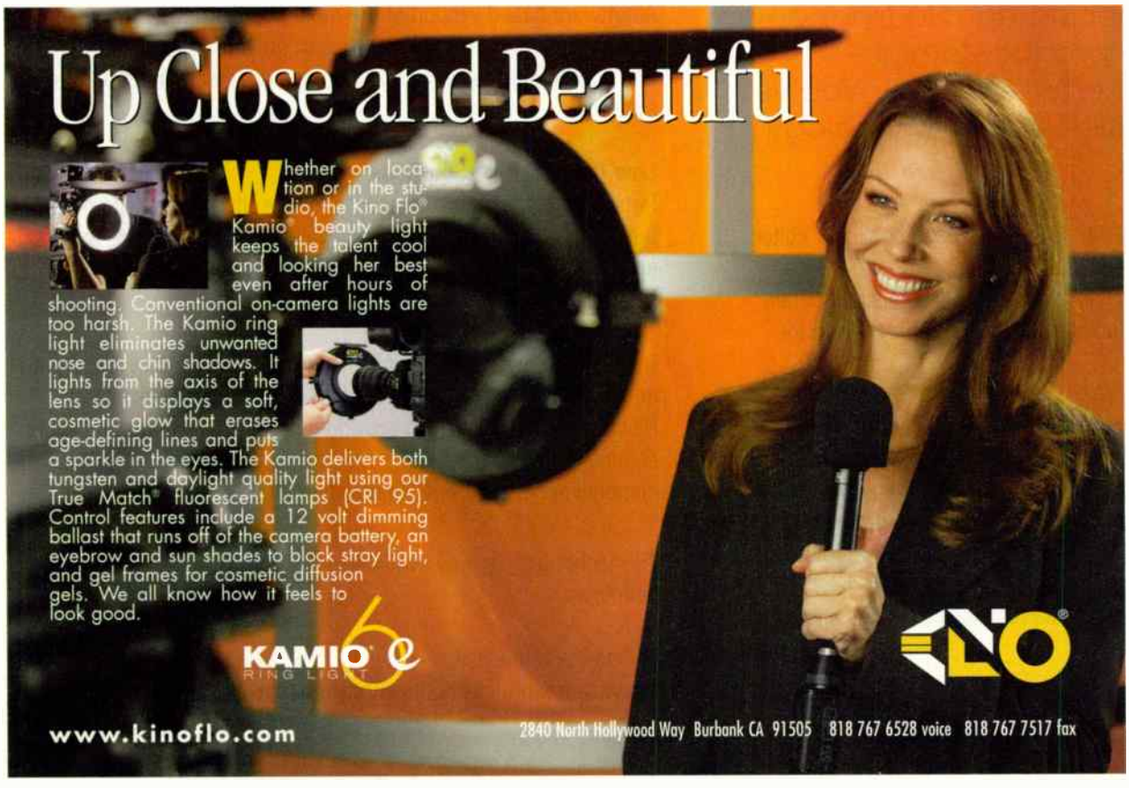
NAB called on set manufacturers to begin warning consumers of the possible obsolescence of analog sets, and to embrace the FCC tuner timetable.

"CEA member companies continue to sell millions of analog TV sets every year, while refusing to tell consumers these sets will soon be obsolete or need converters to work in the digital era," Fritts said. "It is time for CEA to stop perpetrating this fraud on the American consumer."

He said the digital transition would provide CEA member companies with the "greatest transference of wealth in the history of consumer electronics." Yet, the CEA has "consistently thrown roadblocks" in the path of the transition.

NAB said the CEA originally opposed the FCC DTV tuner mandate, and later lost a lawsuit challenging it.

On its Web site, the CEA said it "is working with government and related industries to address the few remaining policy issues, such as intellectual property rights in the digital world, and to create solutions that will avoid marketplace confusion and needless delay." ■ ©2005 NAB



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Broadcasters Urged to Seek a Silver Lining

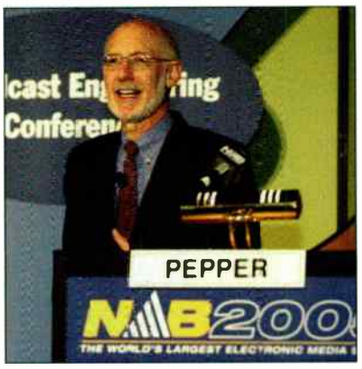
Digital technology creates opportunities in workflow and distribution

by Susan Ashworth

Securing the future of broadcasting sometimes means looking for unexpected opportunities, Robert Pepper said at the broadcast engineering conference at NAB2005.

Pepper, acting chief of the FCC Office of Strategic Planning and Policy Analysis, noted that broadcasting has already undergone a dramatic revolution—just look at the jumps from analog to digital, from narrowband to broadband and so on, he said.

Pepper, who is responsible for providing advice to the FCC chairman and commissioners about industry and policy trend, with particular attention to issues that cut across traditional industry and technology boundaries.



Robert Pepper, acting chief of the FCC Office of Strategic Planning and Policy Analysis, addresses the future of broadcasting at NAB2005.

RESPOND, REACT

Pepper said that what is now coming into focus is why revolutionary changes have occurred—and what broadcasters ought to be doing about it.

Pepper pointed to faster, newer technologies that offer key benefits: cheaper storage, better broadband speeds and dramatic improvements in compression.

Take the plummeting cost of storage. The cost of storing video today is around $1.35 per hour. In 2010, Pepper predicted the cost would fall to around 2 cents an hour.

Similar changes are ahead for broadband. Increased improvements in broadband and compression technologies have led more than 6,000 wireless ISPs to pop up across the nation, and broadband cable operators are expecting to see almost a billion requests for video-on-demand (VOD) from broadband consumers in 2005.

> "The mix of broadband and compression and cheap storage is giving consumers more choice and more control."
>
> —Robert Pepper

As a result, entirely new methods of content consumption are just around the corner. Pepper mentioned one such entrepreneur, Sling Media, whose Slingbox Personal Broadcaster lets viewers watch local television programming from anywhere they have a cable connection and broadband port.

The Slingbox redirects the TV signal from a home cable box, satellite disk or PVR to another location, such as a laptop or PDA.

"The mix of broadband and compression and cheap storage is giving consumers more choice and more control," Pepper said, noting the proliferation of interactive games, online gaming and podcasting.

"The world is becoming more interactive," he said, and the goal for broadcasters is to understand that and embrace the change.

The key is to remember that people want content for themselves, and they want the ability to manipulate it and transform it on their own time. As an example, Pepper pointed to the 2004 blockbuster, "The Incredibles." The animated film earned $93 million its first week in theaters, but racked up $100 million on the first day of DVD sales.

While broadcasters still must address issues surrounding security, reliability and legal ramifications when it comes to rights management and other content issues, Pepper said, the broadcasting community needs to ask itself several questions: What do consumers want? How will they use these new technologies? And how much control do they want over these new devices?

"Consumers are the drivers... and broadcasters need to find a way to use these new technologies to reinvent broadcasting for the next 50 years," Pepper said. ■ *©2005 NAB*

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Analog

CONTINUED FROM PAGE 20

"If we get rid of TVs by date certain [consumers] are going to punch out our political careers by date certain," Engel said.

He doesn't think 2006 is a realistic deadline, and believes 2009 is more achievable.

Having a digital transmission scheme is fine, but similar plans should be developed for the receiver industry, one attendee commented. FCC requirements specify that 50 percent of television sets shipped after July 1, 2005 have DTV tuners.

INDECENCY DISCUSSION

Barton said that comment was "on point" and lawmakers are working with the FCC on it. He also admitted, to much laughter, that he recently purchased an analog TV for $300, having been assured by the salesperson that Congress wouldn't do anything about the issue.

Attendees also discussed indecency, especially Upton's measure passed by the House to raise the FCC's penalties for indecency to $500,000 per utterance.

The bill also includes a provision to revoke a station's license after three violations of indecency rules and allows individuals such as on-air talent to be fined under certain circumstances.

Several panelists urged broadcasters and programmers to curb their programming to guard against indecency violations.

"If we're talking about fines, the bad thing has already happened. I talk to broadcasters about their contracts with the networks," Bilirakis said. "They have the right to reject but not the right to preview network programming."

Asked whether cable and satellite should be included under the FCC broadcast indecency rules, Burns said, "Those are pay services. When do the programmers start taking some responsibility? I haven't heard anybody out of the creative community yet say we need to take a look at what we're providing. It's a paid service. I think MTV should be a paid service like HBO." ■ *©2005 NAB*

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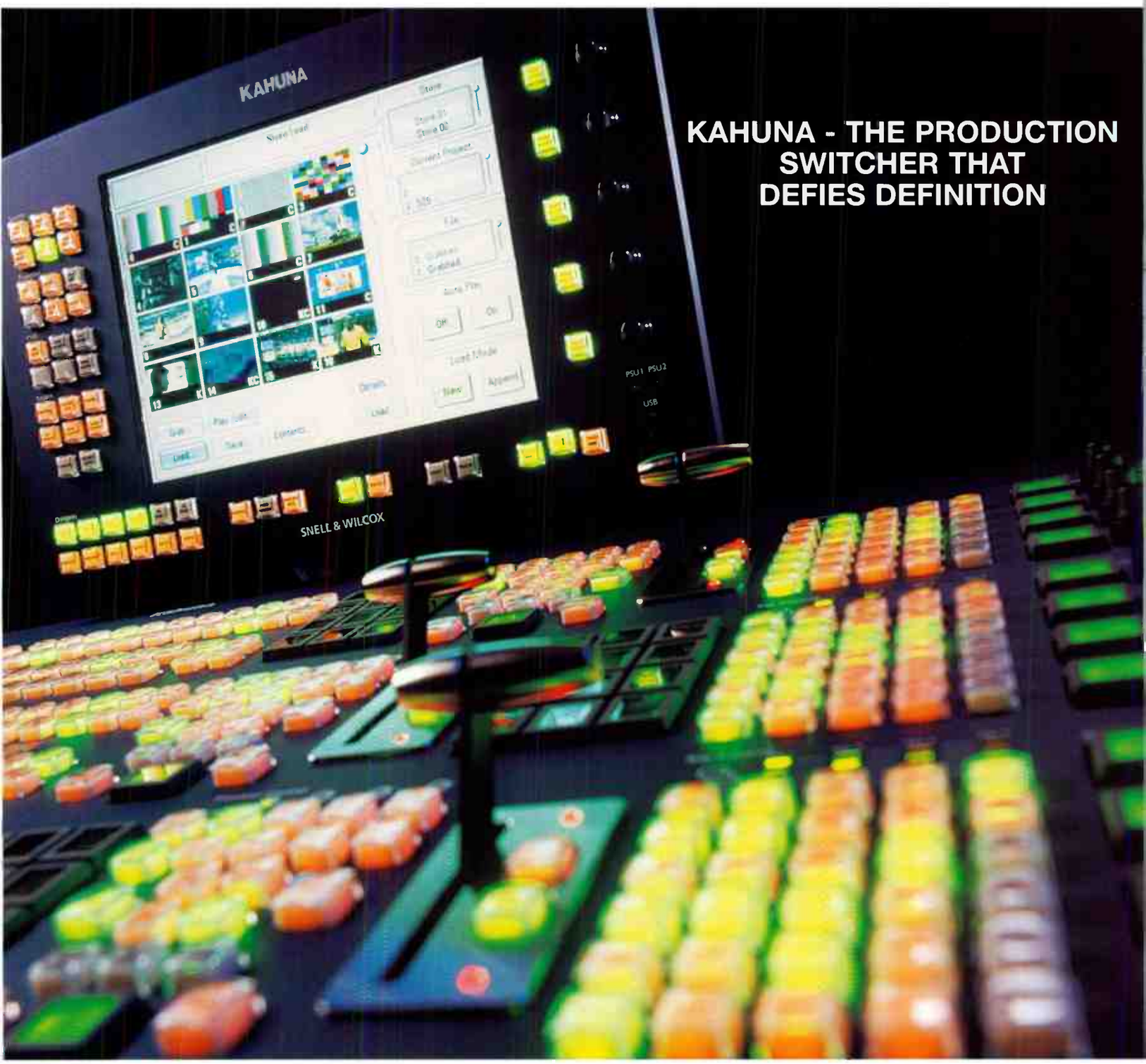

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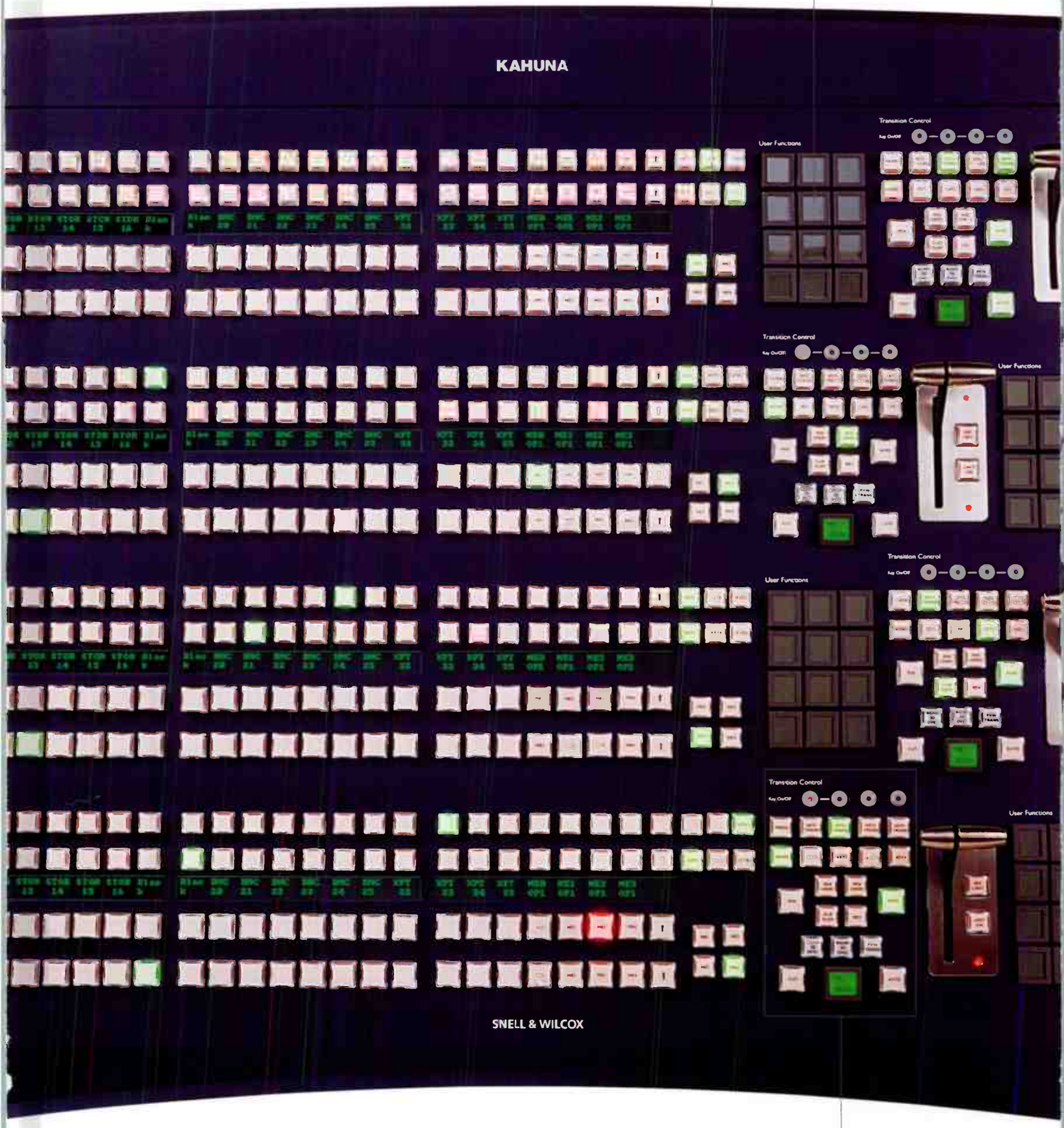
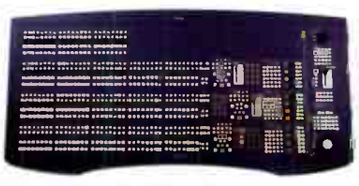
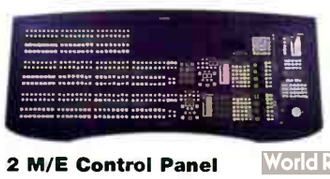




3 M/E Control Panel



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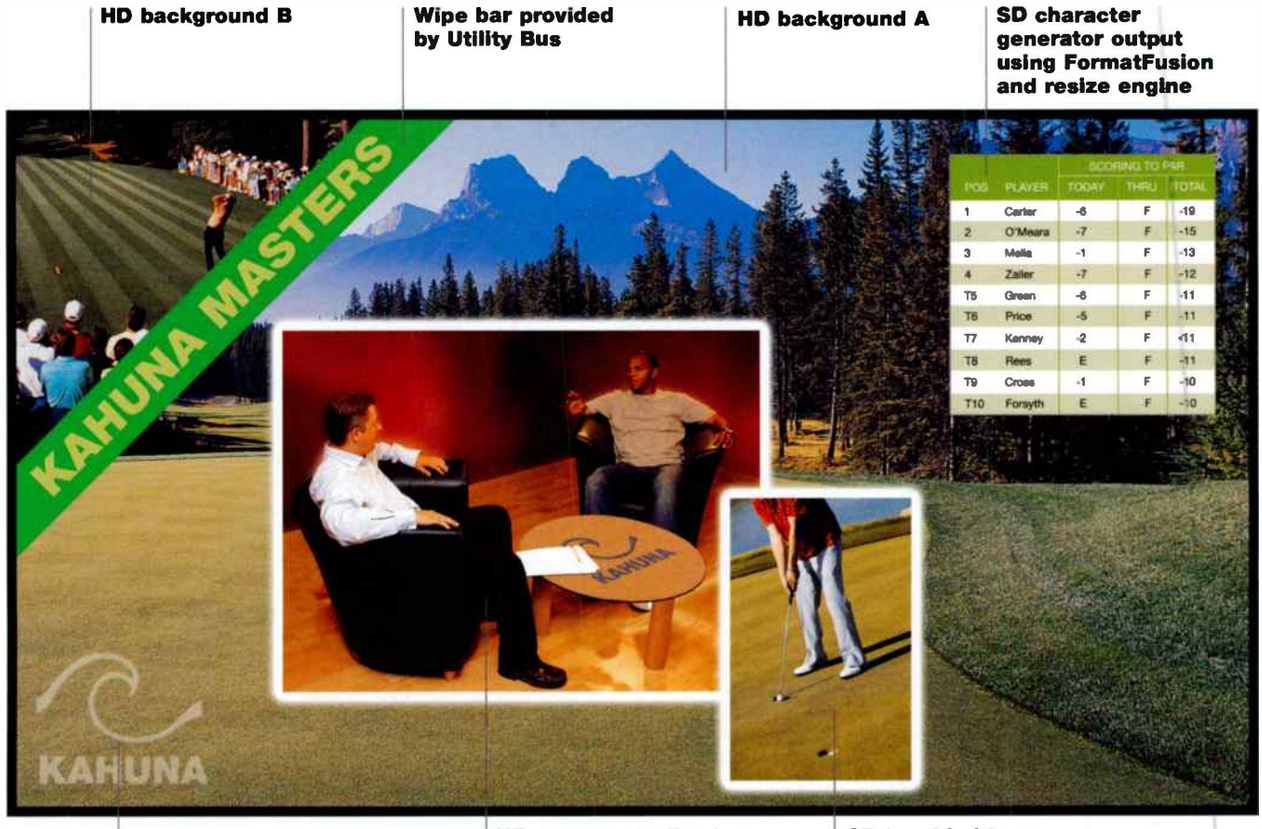

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FORMATFUSION

Engineers Grapple With Interoperability

Rapidly developing technologies present device compatibility issues

by Andrew Morris

Interactivity, the architecture of the digital home and DTV channel allocation were among the issues discussed during the Broadcast Engineering Conference sessions at NAB2005.

Media naming conventions, transmitter efficiency and digital program insertion were also touched on.

GAINS IN INTERACTIVITY

Jeong-Deok Kim, a research engineer with Korean public-service broadcaster KBS, and William Cooper, founder of the consultancy informitv, discussed the increased deployment of interactive television applications.

After talking up the advances made in interactive technology, both presenters acknowledged the many complexities and difficulties that remain standing in the way of the achievement of a broad, worldwide rollout.

Cooper discussed the IPTV deployment plans of telco providers SBC and Verizon via a fiber-to-the-home architecture.

"IPTV is inherently interactive," he said. "The outcome of the SBC and Verizon deployments could radically change the media landscape forever."

Patrick Griffis, director of Worldwide Media Standards for Microsoft, discussed the work of the Digital Living Network Alliance (DLNA) in the development of guidelines for interpreting existing standards to create consistent interoperability among devices in the home. Major players from the consumer electronic, personal computer and mobile device worlds—including Microsoft, Intel, Panasonic, Nokia and Samsung—are members and supporters of DLNA.

(L to R) Jeong-Deok Kim, William Cooper, Patrick Griffis and Patrick Attallah discuss the challenges of moving content through the digital realm.

"The outcome of the SBC and Verizon deployments could radically change the media landscape forever."

—William Cooper, informitv

Patrick Attalah, managing director of the ISAN International Agency, described the International Standard Audiovisual Number (ISAN) standard for creating a "unique and permanent ID of audio/video works."

Attalah called ISAN a "universal global identifier that is a dumb number for smart people."

Richard Chernock, senior member of the technical staff at Triveni Digital, explained the potential importance of ISAN as a means of providing accurate schedule information for broadcasters.

Chernock said broadcasters have three generally incompatible sources of program information. These sources are listing services, traffic systems and automation systems. Each of these services has a different function, carries different types of information and often does not refer to the same program event by the same name.

"ISAN cannot solve this problem today but may be able to do so in the future," Chernock said.

Harmonic, Inc. National Account Manager Michael Guthrie and Product Marketing Manager Patrick Waddel discussed the use of Digital Program Insertion (DPI) technology for providing embedded cue tones to cable television multiple system operators. DPI is now being deployed in the cable industry and is based on a number of Society of Cable Television Engineers standards including SCTE 30, 35 and 104, which cover server/splicer communication, the definition of an embedded cue tone and automation/encoder communication.

Guthrie and Waddel explained why broadcasters should implement the technology and how to do it.

Other presentations included the use of depressed collector IOT tubes to provide equivalent DTV and NTSC transmitter output with much less power consumption. Broadcast transmitter utility bills can decrease by many thousands of dollars with the deployment of these tubes.

William Meintel, president of TechWare Inc., described the seven-step process the FCC is using to arrive at the final DTV channel allotment table.

Three rounds of channel elections by television stations and a series of negotiations and conflict resolutions will likely complete the transition to DTV for the nation's broadcasters by July 1, 2006.

Meintel explained that the FCC is under a great deal of pressure to stick to this timeline, but he expressed skepticism that analog service would be turned off according to this very same schedule. ■ ©2005 NAB

RTNDA Delves into Credibility of News

Professionals struggle to come to terms with ethical violations in journalism

by Craig Johnston

"It's crystal clear and exceedingly complex," said moderator Bob Steele of The Poynter Institute, describing ethics in electronic journalism at an RTNDA Super Session entitled "Tough Calls and the Credibility of Journalism Today."

"We're really good at reporting on everybody else," said Fred Young, senior vice president of news for Hearst-Argyle Television, "and we're not really good at explaining ourselves."

Panelists noted that while experienced journalists tend to think of ethical issues as a problem with younger news people, nearly all the recent high-profile ethics "disasters" have involved experienced professionals.

"At a time when opinion counts for more than reporting, it's easy to have the public confused about what the role of journalism is," said Jeffrey Dvorkin, ombudsman for National Public Radio.

At a time when opinion counts for more than reporting, it's easy to have the public confused about what the role of journalism is."

—Jeffrey Dvorkin, NPR

There was general agreement among the panelists that 24-hour cable news channels devoting hours a day to the likes of Michael Jackson's trial instead of events more relevant to the audience, have tarred broadcast journalism. Representatives from cable news were invited to participate, but declined to attend.

"I don't believe on a local level that more opinion is getting into local newscasts," said David Duitch, vice president of Belo Broadcasting's Capital Bureau. "I don't believe most local stations try to let any opinion in."

Linda Mason, senior vice president public affairs for CBS News, said one of the problems with her company's Air National Guard election story breakdown was that there wasn't enough feedback to the reporters.

"Really good reporters want feedback," she said, noting that CBS News has reinstituted a system of dialogue with its journalists.

Kerry Marash, senior vice president of editorial quality for ABC News, pointed to the challenges networks and stations face in running home-video footage from locations where they may not have journalists on the ground.

Marash pointed out the need for properly attributing such footage, and to ask a lot of questions to make certain that the news operation is not being misled. ■ ©2005 NAB

World Radio History

DreamWorks Chooses a Future With AMD

Advances in microprocessing extend creative potential of animation

by John Merli

Those who attended the keynote event of the NAB MultiMedia World Conference got a little bit of industry forecasting and a whole lot of eye-popping computer-generated HD video and audio, along with a big announcement between microprocessor maker AMD and SKG DreamWorks.

After a surprise introduction from keynoter Hector Ruiz, the CEO of AMD, mega-producer Jeffrey Katzenberg (the 'K' in SKG) appeared on stage to announce that DreamWorks will use AMD 64-compatible software for production in all its future film ventures, including the next big-budget, computer-generated offering, "Madagascar," which premieres May 27.

Katzenberg treated the audience to a special 15-minute segment of the new motion picture, which both companies promised would break new ground in computer-managed animated content and special effects, including mastering the most challenging effect of all—moving water. (Much of the new movie takes place on a desert island.)

For its part, AMD partnered up with some major players in recent months, including Microsoft, Lucasfilm Ltd., and now DreamWorks, because Ruiz said his company has justifiably convinced content creators and producers that AMD is synonymous with creativity and flexibility.

Hector Ruiz, AMD CEO

"Behind all the software of AMD 64 is the vital desire for a creative process, and this is something we continue to foster with all our new partners," Ruiz said. "A company like ours is often judged by the company it keeps. We're in very good company these days."

Ruiz became CEO three years ago, after serving as president for two years.

Ruiz said the underlying priority to the approach taken by AMB in serving Hollywood and other producers is realizing that artists are using his firm's technology as a creative tool, like any other, and could care less about its software or hardware prowess, except for the vital need to provide as much power as possible to enable content manipulation and production without technical limitations.

> **"A company like ours is often judged by the company it keeps."**
> **—Hector Ruiz, AMD**

Rick McCallum, producer of the three "Star Wars" prequels was on hand as well.

AMD 64 microprocessors were used in creating hundreds of computer-generated sequences for the final chapter of the "Star Wars" franchise, which premieres later this spring.

"Even one 'Star Wars' ago, most of this would have been out of the question," McCallum told the NAB audience. He said new microprocessing advances save both time and money.

McCallum treated the audience to a detailed HD-quality demo of many of the new film's action sequences—showing the computer-generated mock-up simultaneously side-by-side with the final scene product.

Most of the presenters said advances in microprocessing such as ADM 64 will play an important role in the coming rollout of HD, and HD, in turn, would be instrumental in propelling continuous advances in microprocessing technology. ■ *©2005 NAB*

RTNDA Honors Providence Reporter

Broadcast journalist spent four months under house arrest for protecting source

by Scott Fybush

Ten days after being released from home confinement for refusing to divulge the source of a news story, Providence, R.I. television reporter Jim Taricani was greeted with a standing ovation by his colleagues at the opening breakfast of RTNDA@NAB conference.

Taricani spent four months under house arrest for contempt of court after protecting the source of a videotape that helped bring down a corruption ring in the Providence city government.

Presenting Taricani and WJAR-TV News Director Betty-Jo Cugini with citations for their defense of the First Amendment, RTNDA President Barbara Cochran said the threat to the freedom of the press is intense.

> **"We have judges and law enforcement agencies forcing reporters to become de facto investigators, and that is not good news."**
> **—Jim Taricani, WJAR**

"The fight is getting more important all the time, as the government shuts off access to important information tries to meddle in the content of ne she said.

Taricani, who was restricted f contact with the outside world w serving his sentence said, "It's good to here. Actually, it's good to be anywhe outside my home."

Jim Taricani, the WJAR reporter who was arrested for not divulging a source.

Thanking his management at NBC for its support during his trial and confinement, Taricani called on news managers to press for a federal shield law to protect journalists' sources.

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World Radio History

Media Types: Video is the Lingua Future

Continued need for consistent standards acknowledged

by Farah Jifri

Everyone, it seems, is keen to ride the video wave; telcos and ISPs have already made that jump, and publishing is next.

Kicking off the Super Session "Video: The Next Wave in Publishing," Steve Saylor, vice president of the Digital Video and Audio division at Adobe Systems, tipped video as the next "big idea" that is set to hit the mainstream.

"Ideas get big when they are opened up to a broader community, and that's where publishing comes in," he said.

According to Saylor, it is this openness that is the key to the success of video as the next trend in the publishing world.

"When you open up a technology to a broader community, then innovation takes off...," he said. "This is where we are with video publishing."

Some points from the session... just as personalized entertainment and the proliferation of broadband and mobile Internet have already created new venues for media—and are changing the way people communicate—so will video publishing.

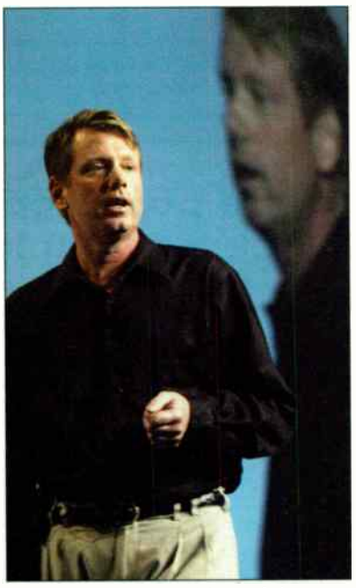
21st CENTURY LITERACY

Video lies at the heart of the phenomenon of "21st century literacy," and the professional language of the future is interactive media.

The key for companies such as Adobe, HP, Sony, Microsoft and Intel is figuring out how to drive momentum and democratize the process of creating high-quality video content regardless of how it is acquired or delivered.

The commoditization of HD and the blurring of lines between broadcasters, production studios and gaming companies, the prosumer and consumer will drive the video-centric culture.

Add to this the influence of mobile video, the growing mobile workstation market, the quantum leaps in processing power from Intel, and the trickle down of technology and tools from the enterprise segment to the consumer end and you get a glimpse into the possible evolution of video publishing.



Steve Saylor, vice president of the Digital Video and Audio division at Adobe Systems

"Is HD here? Absolutely! Has the price come down? Absolutely!" enthused Bob Ott, vice president, Broadcast and Production Systems Division at Sony.

HDV has made HD affordable to the likes of wedding videographers. They can now capture and play HD content on a computer, and it won't be long before they are able to edit and deliver it on HD DVD using bluRay.

All the panelists stressed the importance of customer feedback to the continued development of video publishing, whether it is from the enterprise or what Jeff Wood, director of HP Personal Workstation Marketing, calls "the Mom and Pop shop at home."

"Ideas get big when they are opened up to a broader community, and that's where publishing comes in."
—Steve Saylor, Adobe Systems

Although enterprise might seem a million miles away from that Mom-and-Pop outfit in the development of technology and the way it is used, cross-pollination between the two can have significant benefits.

"The fact that all these technologies are being adopted by the enterprise industry is driving costs down," said Erik Huggers, senior director, Windows Client Division, Microsoft Corp.

Getting standards and certification in place at this stage are essential if the diverse acquisition, editing and delivery systems are to work seamlessly together—whether in the professional space or for use by a single content producer creating a video blog at home.

It all comes back to the question of openness, according to Diane Bryant, Intel vice president, Digital Enterprise Group, and general manager, Volume Server Product Line. It is standards that make this possible.

Unlike the spread of technology such as photography, which took 50 years, the video revolution is going to be a rapid one. We are already seeing a generation of media savvy, technophiles emerging.

"Everyone coming out of school has a fluency in this new media community," Saylor said. "This is what is going to drive the future shape of this new realm, where so many people have these tools and technology." ■ ©2005 NAB

RTNDA

CONTINUED FROM PAGE 28

"We have judges and law enforcement agencies forcing reporters to become de facto investigators, and that is not good news," he said.

RTNDA chair Bob Priddy said legal challenges are a major focus of discussion at this week's convention. Priddy said the controversy over the use of "video news releases" threatens to bring new and unwelcome government regulation of broadcast news.

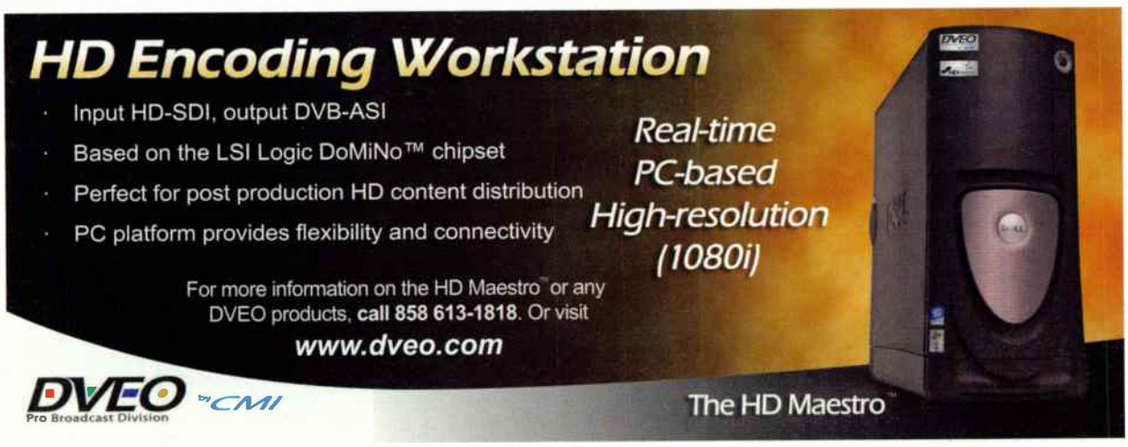
"No government agency has any business in a free society dictating the content of programs," Priddy said.

For the first time in five years, RTNDA presented the John F. Hogan award for distinguished service, honoring Don Fitzpatrick, creator of "ShopTalk," one of the first electronic industry newsletters. RTNDA awarded the Rob Downey Citation for exceptional service to the board of directors to Chip Mahaney of KDFW-TV, Dallas.

During the week of the show, RTNDA members voted on a new slate of officers for the organization. Taking the gavel as chairman was Dan Shelley, news director and assistant program director at WTMJ-AM in Milwaukee. Shelley succeeded Bob Priddy, news director at Missourinet in Jefferson City, Mo. Priddy will continue to serve on the board.

Angie Kucharski, recently named vice president and station manager at WBZ-TV in Boston, became chair-elect. She will produce RTNDA@NAB next year, and will succeed Shelley as RTNDA chair at the conclusion of the 2006 conference.

Loren Tobia of AccuWeather was re-elected treasurer. Three members were re-elected to the board: Janice Gin of KTVU-TV in Oakland, Calif.; Susana Schuler of Nexstar Broadcasting in Irving, Texas; and Brian Trauring of WTVG-TV in Toledo, Ohio. ■ ©2005 NAB



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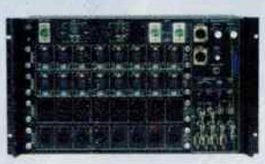

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Sony Brings On New HD Gear

Tapeless acquisition grows

by Craig Johnston

"Sony is inviting everyone on the HD Highway," said John Scarcella, president of Sony Electronics Broadcast and Business Solutions Company in kicking off the company's NAB press conference.

Scarcella said he believed there would be a lot of broadcasters and video producers who would be taking him up on his offer, as he predicted more than 50 percent of the division's 2005 sales would be in the form of HD equipment.

One attraction to Sony HD wares—the company's new HDC-1000 1080 60p camera that can be sampled to yield 720p and deliver 1080i or 1080p natively. It currently yields format flexibility, and offers next-generation 1080 60p format as well.

XDCAM

Sony is doing a brisk business in its optical disk acquisition XDCAM equipment, with more than 6,000 units sold as of the start of the show.

The company is emphasizing the workflow advantages of the disk-based format, including the advantages of moving low-resolution "proxy" video around a facility's network for logging and offline editing, with the ability to exactly match it to the full-resolution images for finished editing.

An HD XDCAM prototype was on display at the show.

A lot of activity centered on the HDV area of the Sony booth, where two HDV camcorders and an array of peripheral equipment was shown. The sales point being made for HDV is that a videographer can shoot current projects in HD and deliver them in SD if the customer so desires, with the ability to later deliver them in HD when the customer is ready for that format.

HDV INITIATIVE

Many other vendors at NAB were also betting on the Sony HDV initiative, rolling out accessories such as bags, lens adapters and camera support equipment specifically designed for Sony HDV camcorders.

For top-of-the-line high-definition and electronic cinematography production, Sony moved forward with its HDCAM SR efforts with the SRW-5500 VTR, capable of recording in either the HDCAM or HDCAM SR format. The company also introduced the SRW-1/SRPC-1 Field Recorder, which can record RGB 4:4:4 images at rate as high as 880 Mbps.

Sony predicted that a long-awaited paradigm change is afoot in motion picture theaters with the introduction of its 4K-resolution (4,069 x 2,160 pixel) Silicon X0tal Reflective Display (SXRD) technology. Landmark Theaters will begin its digital cinematography rollout this summer in all of its 59 theaters and 22 markets.

John Scarcella, president of Sony Electronics Broadcast and Business Solutions Company

The new Sony HDC-1000 1080 60p camera

STANDARD DEF

With all the attention to high definition, Sony reminded those who would produce in SD for the foreseeable future that they have not been forgotten. The company expanded its line of DVCAM products with the DSR-400 and DSR-450WS (16:9 capable) camcorders, and upgraded three of its VTR decks, resulting in the SDR-1600A, DSR-1800A and DSR-2000A.

Sony showcased the networking capabilities of its XPRI nonlinear editing system. It has found a home in the fast-paced world of first run syndicated programming, where several editors

SONY, PAGE 38

World Radio History

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World Radio History

Sundance Breaks Down Backroom Walls

Automation software allows two-way communication from traffic department

by Deborah D. McAdams

Sundance Digital is developing technology that will break down back-office walls. New integration software—so new it had yet to be named at NAB2005—will allow traffic to update the playlist.

The software will also enable bidirectional messaging.

"Traffic departments can directly schedule items instead of taking a note to master control," said Steve Krant, vice president of sales and marketing. "The master control operator can concentrate on making sure everything is there, and not worry about a sticky note falling off the console."

Krant said the software would allow greater flexibility on last-minute spot sales. It's being developed for use with the Myers ProTrack program and StarsII+ from Video Communications Inc., in conjunction with the Sundance Titan and FastBreak automation systems.

"Automation has traditionally been about software that can control devices," Krant said. "Anyone can do that. We're moving beyond that."

"The master control operator can concentrate on making sure everything is there, and not worry about a sticky note falling off the console."

—Steve Krant, Sundance

The Sundance NewsLink automation system now includes support for the Sony mVS-8000A switcher.

Robert Johnson, president of Sundance Digital, said the software should be available in about six months. He also said the company has re-engineered Seeker, the asset management software introduced at NAB2004.

The new Seeker is much more broadcast centric. The media management engine integrates with third-party transcoding engines such as TeleStream Flip Factory, which allows content to be moved automatically to a server, and can link traffic inventory data to edit systems.

Features include the ability to flag errors, attach deadlines and create task templates for daily chores like promos.

Sundance was also demonstrating the power of its Titan system by controlling two channels of an Omneon server back in the company's Dallas lab from the exhibit booth in the South Hall. Low-resolution versions of the feeds were playing in the booth with the use of Miranda Allegro encoders.

MULTIFORMAT OPERATION

Sundance is extending the functionality of its NewsLink automation and playout control system for digital news operations to include the Sony MVS-8000A series of production switcher in the newsroom environment.

The MVS-8000A targets both live and post-production applications, and provides multiformat operation across the range of SD and HD formats. Sundance and Sony said the collaboration would ease integration of the elements necessary to assemble a multiformat news broadcast. ■ *©2005 NAB*

Wohler Growth Reflected in Offerings

Sunlight viewable LCD monitor line rolled out

by Mary C. Gruszka

Due in large part to HD, Wohler Technologies has experienced tremendous growth.

"2004 was an absolutely incredible year for Wohler," said Carl J. Dempsey, executive vice president of Wohler Technologies, at NAB2005.

"Sales grew by over 26 percent, a record growth year, and Wohler enjoyed an average of 15 percent growth rate for the five years prior," he said.

"One of the reasons for our continued success is our strong focus on our core competency—audio and video monitoring."

To handle this increased business, Wohler will move to larger facilities in Hayward, Calif., in June, with nearly double the space of its present location in South San Francisco.

COMPREHENSIVE LINEUP

Wohler came to NAB2005 with a new chief operating officer, David Johnson, and 12 new products.

Penpal-HD, what Dempsey billed as "the world's smallest HD-SDI video and embedded audio test signal generator," provides 32 video test patterns in 18 HD standards, embedded audio test signals, moving test patterns and pathological tests, in a pocket flashlight-shaped portable package approximately six inches long and weighing 6 ounces.

One of the new rackmount confidence monitors is the VAMP2-S8MDA 8-channel analog, AES/EBU, HD-SDI/SD-SDI monitoring and conversion unit. The 2 RU panel also includes a gooseneck-mounted crisp 7-inch LCD screen and a self-powered loudspeaker.

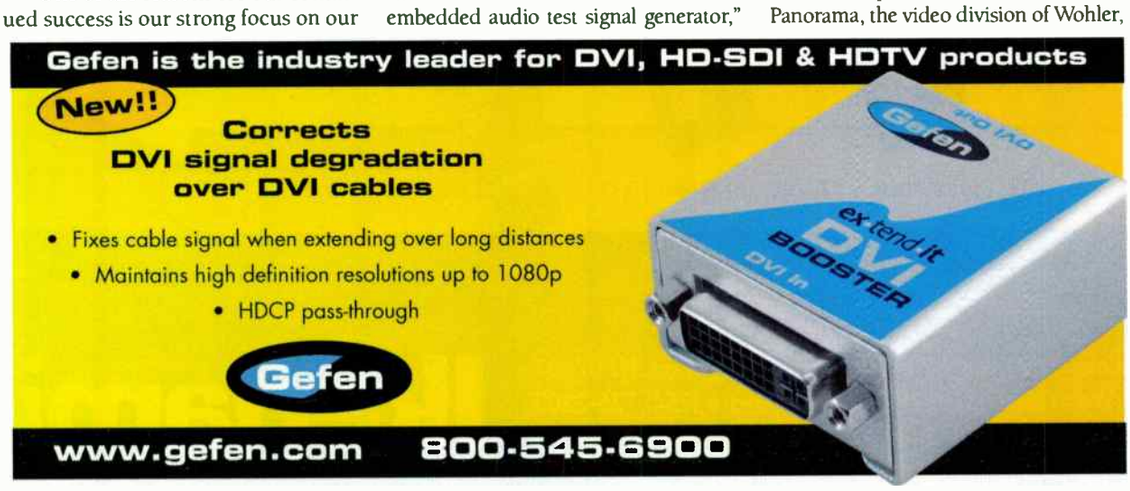
For compact LCD video monitors, Panorama, the video division of Wohler, debuted the HR series of high-resolution HD-SDI 7-inch, 16:9 LCD video monitors.

The Panoramadtv HR-T170W

The HR-3270W contains two LCDs in one 3RU panel, and the HR-T170W fits in a standard Tektronix half-tub.

One of the problems of LCD monitors is the image appears washed out in direct sunlight—but not with the new Daylite sunlight-viewable LCD video monitors. "These monitors are viewable in all sunlight conditions, including direct sunlight, without needing a visor," Dempsey said.

The Daylite product line benefits from a variety of technologies, Dempsey said, including more efficient backlighting, a precision antiglare glass that is bonded to the front of the assembly and a new generation of control electronics. ■ *©2005 NAB*



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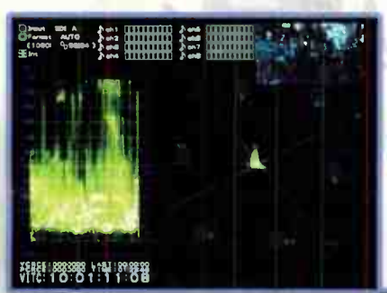
Monitor Line Up



The Waveform/Vector Scope Monitors offer a multi display function: Waveform, Vector Scope, Sound Info, Input Signal Info and Picture (shown here); and Dual Display Function (Waveform and Picture). The user can also display each function individually.

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Panasonic Extends the Reach of P2

New hi-def handheld camera, portable drive for solid-state line introduced

by Deborah D. McAdams

At a presentation that literally started with a pony show (in 3D hi-def digital cinema), Panasonic executives unveiled new P2 products, adopters and partners at their NAB2005 presentation.

In all, more than 150 broadcasters worldwide, including 60 in the United States, have purchased more than 2,000 pieces, according to Yoshi Ito, director of the Systems Business Group, Panasonic AVC Networking Company.

Among P2 converts announced at the show were 26 new U.S. stations, including three Jefferson-Pilot stations, 11 stations belonging to Cordillera Communications, WTXF in Philly, KRIV in Houston; and new purchases from Media General (seven more stations) and Liberty Corp (three more stations).

Off the continent, ZDF and MDR in Germany, SVT in Sweden, Sogecable (CNN+) in Spain, TV3 in New Zealand, and Jiangsu TV in China have gone with the solid-state method of capturing video.

The sale of four AJ-HDX400 DVCPRO HD camcorders and five AJ-HD1200A DVCPRO HD VTRs to Cox 4/704 was also announced, making the regional San Diego, Calif.-based operation the first local cable channel in the United States to do acquisition, production and post production entirely in hi-def, according to Panasonic executives.

John Baisley, president of Panasonic Broadcast, reminded the crowd inside the 250-seat theater that the National Aeronautics and Space Administration had taken delivery of 30 Panasonic AK-HC900 earlier in the year, to capture hi-def images of space. Between HD in space, and shows from "American Chopper" to "American Idol" being shot in hi-def with VariCams, HD production for broadcast is "well past the tipping point," he said.

Panasonic kicked off its presentation with a 3D clip.

Another deal announcement had less to do with an individual customer than a company milestone—the sale of the 500,000th DVCPRO/DV format recorder.

P2 COMPATIBLE

Several vendors are rolling out P2-compatibility. Among them, Apple added P2 capability to Final Cut Pro; the Canopus Edius will support the format; Focus Enhancements extended the FireStore Suite to P2; Leitch add it to NewsFlash FX; Pinnacle Liquid Broadcast Edition now handles P2, as does Thomson NewsEdit. SGI is developing an MXF capability to handle P2, and Microsoft has included the technology in its Connected Services Framework IT architecture.

P2 is a natural for such initiatives, said Phil Livingston, director and general manager of Panasonic Digital Systems, "because the moment the recording stops, the material is in the IT domain."

The number of Panasonic P2 industry alliance partners has grown from six to 15—Thomson, Omneon, Quantel, Focus Enhancements, EVS, Avid, Apple, Dayang, Canopus, Dalet, Leitch, Microsoft, Pinnacle, Telestream and SGI.

MORE TO COME

Panasonic had new gear at the show that will hit the market at various times throughout the rest of the year, including a ruggedized drive for rapid in-the-field P2 content transfers.

The AJ-PCS060, a 2.5-inch 60 GB hard drive, will sport a 2.0 USB interface that allows the transfer of a full 4 GB P2 card in about four minutes. The drive will be available in August for $1,800, list price.

The AG-HVX200 DVCPRO HD P2 represents the company's first HD solid-state handheld camcorder. The AG-HVX200 has two card slots and records in 1080/60i, 30p and 24p; 720/60p, 30p and 24p; and in DVCPRO50, DVCPRO or DV. It also records 480i and 480p on Mini-DV tape from a built-in drive. AG-HVX200 will come available in the fall for about $5,995 (camera only), and for $9,995 for camera and two 8GB P2 cards.

In addition to 17 TV stations, Birns & Sawyer, a gear rental and sales firm in Hollywood, Calif., placed an initial order for 25 of the AG-HVX200s.

A solid-state camcorder aimed at ENG, the 2/3-inch 520,000 pixel AJ-SPC700 shoulder-mount DVCPRO camcorder has five P2 slots, is 4:3/16:9 switchable and runs on about 20 W of power. The camcorder is due out in September with a list price of $12,995.

A new native 16:9 2/3-inch 3-CCD convertible bayonet-mount camera, the AW-E860, is on the market now. New accessories for the AW-E860 include two pan-tilt heads, a pan-tilt controller, a CCU and a cable compensation unit.

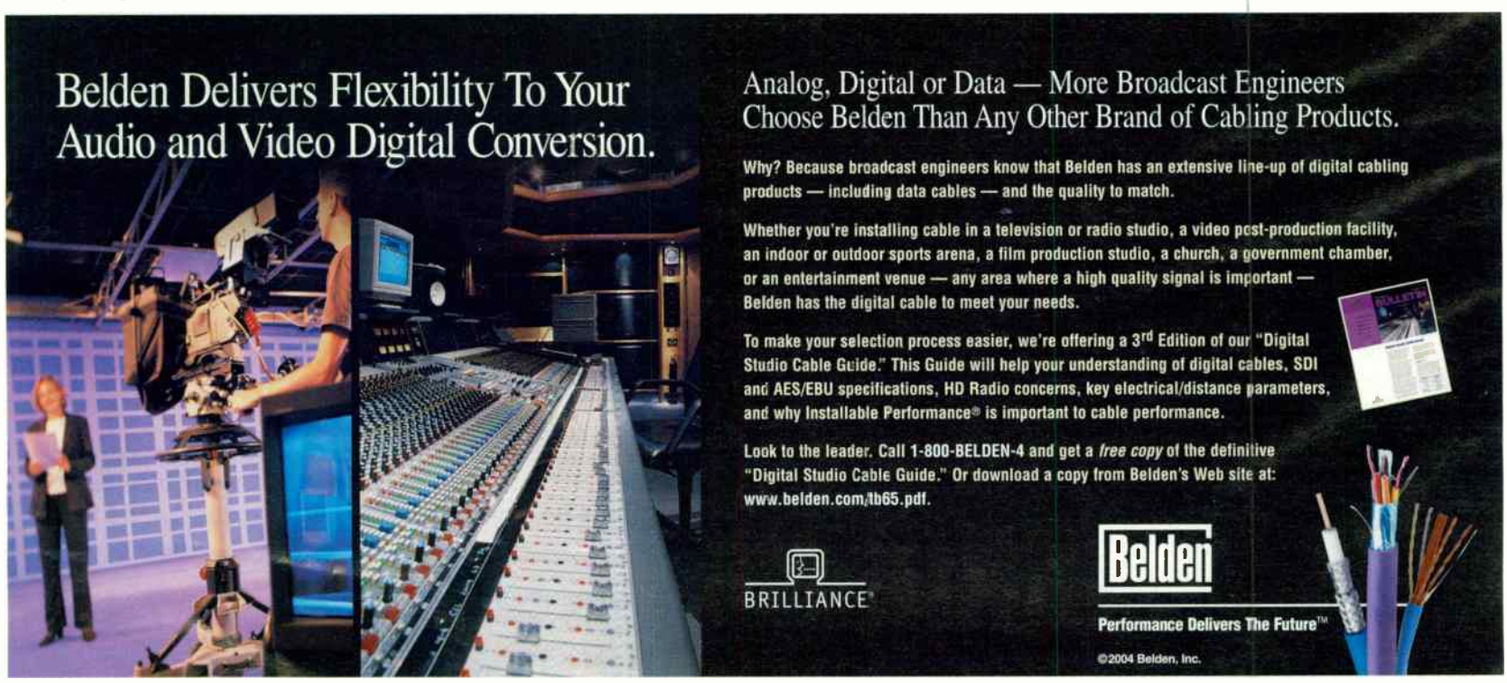
The BT-LH1700W broadcast-quality flat-panel, 17-inch HD/SD LCD monitor was also introduced at NAB2005. It will available this fall at a list price of $3,400.

New wireless LCD projectors were also unveiled. Weighing in at less than five pounds, the PT-LB20U line features Daylight View technology, which "detects changes in a room's light intensity and significantly enhances perceptible colors," according to Panasonic. The projectors are currently on the market.

Finally, Panasonic introduced a new line of tape. The new thicker Advanced Master Quality (AMQ) professional DV tape series ranges from 33-minute Mini-DV to 276-minute standard DV cassettes and is due out in June. ■ *©2005 NAB*

"The moment the recording stops, the material is in the IT domain."

—Phil Livingston, Panasonic



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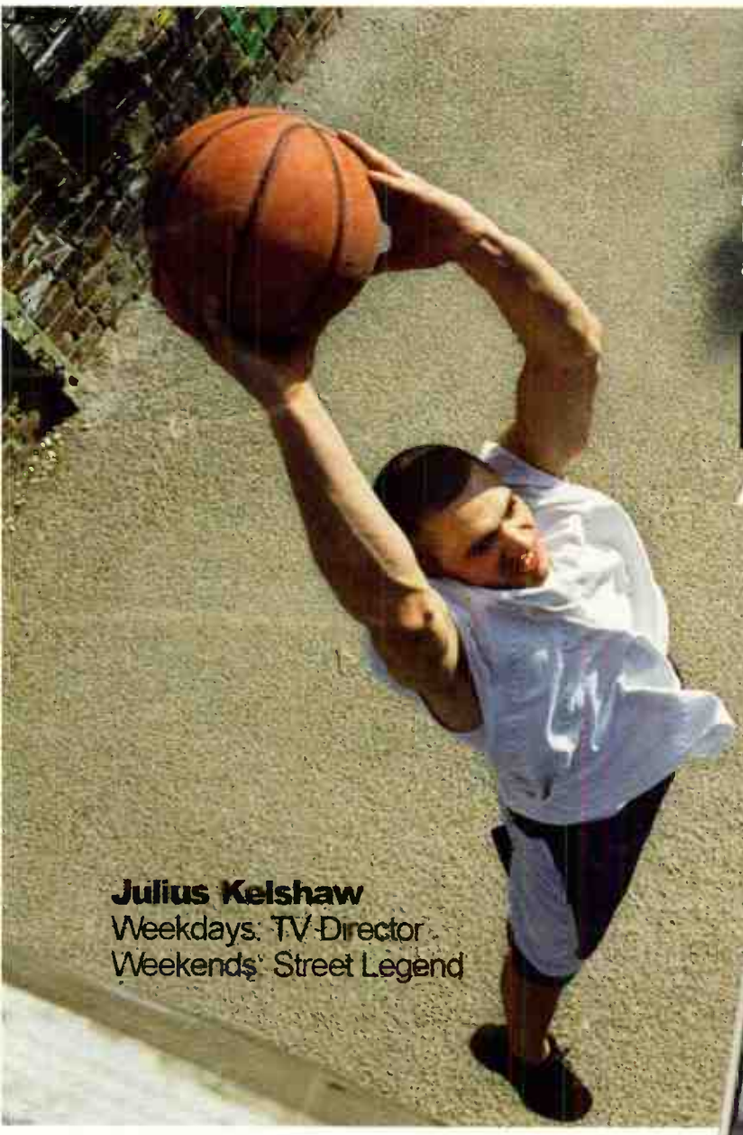

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World Radio History

Omneon Aims to Serve the World

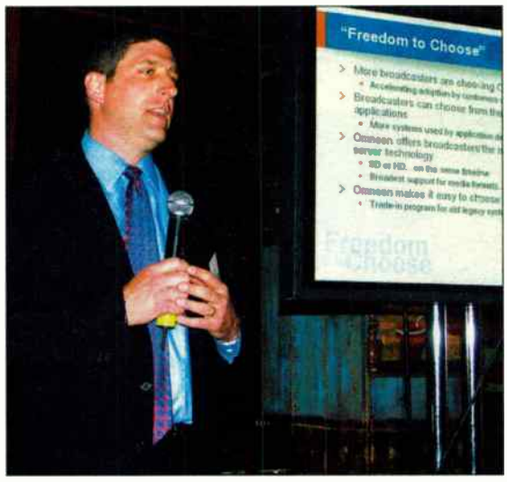
New server add-on device offers simultaneous SD/HD playback capability

by Deborah D. McAdams

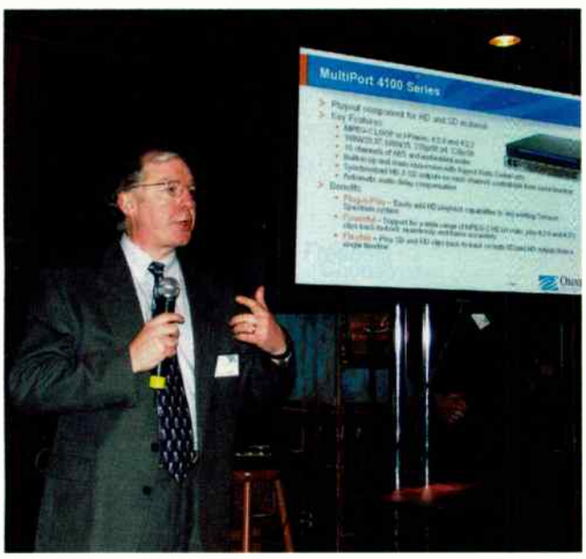
The theme for the Omneon bash at NAB2005 was blue, but the company's news was anything but. At the House of Blues, replete with glowing blue martini glasses filled with a blue concoction, Vice President of Marketing Geoff Stedman reported that Omneon chalked up 254 percent more revenue last year than in 2003.

"We're in facilities that have hundreds of channels all the way down to single call-letter stations here in the United States," Stedman said at the company's press conference.

One characteristic of the Sunnyvale, Calif.-based server company is an unabashed approach to business development. This year, Omneon unveiled a buyback program for Pinnacle MediaStream servers good for up to $10,000 on a new Omneon through 2005.



"We're in facilities that have hundreds of channels all the way down to single call-letter stations here in the United States."
–Geoff Stedman, Omneon



Above, Geoff Stedman, vice president of marketing at Omneon describes the company's growth over recent quarters; Left, Paul Turner, vice president of product management, gives a rundown of the new Multiport 4100 add-on for HD playback.

MIGRATION UTILITY

The trade includes either a free copy of Omneon MigrateTool or on-site assistance to transfer up to 100 hours of material from the old server to the new one.

The MigrateTool itself is a new software release, designed to convert material from legacy Pinnacle, Grass Valley, SeaChange, Leitch, Quantel and Sony MAV7 servers for storage and playout on Omneon products.

Last, but in no way least, Omneon rolled out a small box that allows Omneon servers to do simultaneous playback of HD and SD material on a single channel.

Paul Turner, vice president of product management, described the MultiPort 4100 as a "plug-and-play device that you can use to add HD-playback capability to any Omneon server."

The MultiPort 4100 series supports long-GOP and I-frame HD playback in the 19 Mbps to 78 Mbps range; and LGOP, I-frame and IMX SD playback in the 3 Mbps-to-50 Mbps range.

It handles 4:2:0 and 4:2:2, has built-in up/down conversion for each channel, and employs time frame rates for audio. It is also compatible with external converters as well, sporting an audio-delay function to sync the sound for just such a configuration. ■ *©2005 NAB*

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Sony

CONTINUED FROM PAGE 32

collaborate to quickly finish an episode for air.

In an effort to lower the cost of live-content production, Sony showcased its Anycast Station system, an economically priced, 15.5-pound easy-to-setup production console including a switcher, monitor wall, stillstore, audio mixer and camera pan/tilt/zoom control, along with provisions for intercom and a recording/playback device.

Anycast Station is targeted for sales training programs and conferences, corporate meetings, church productions and high-school sporting events.

LUMA LINE

With the exception of "evaluation-grade" video monitors, Sony has turned totally to the LCD monitors of its Luma line to fill the needs of video production operations.

The Luma Multiformat Engine Unit provides extensive professional user features and options to help video technicians diagnose their video signals.

Remembering that the best image in the world is only as good as the recording you can make of it, the Sony Professional Media Products group touted its recording media. Its HDCAM SR and HDV DigitalMaster tape as well as the XDCAM disks were co-engineered with the recording hardware for their individual formats to assure top image retention.

At the Sony event, a series of customers appeared on-stage to relate their experiences with new Sony HD gear. Among the announcements was an agreement reached with NBC just 30 minutes earlier that day, which will continue the network's commitment to Sony technology through the 2012 Olympics.

Also noted was a Sony program with PBS to upgrade a select number of the public networks' stations to serve as models of HD production facilities at various cost levels. ■ *©2005 NAB*

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World Radio History

Snell & Wilcox Targets Affordable HD

Kahuna brings standard and hi-def side-by-side in the same switcher

by Bob Kovacs

Snell & Wilcox rolled into NAB2005 with the goal of seamless interoperability of SD and HD, at the same time driving down the cost of HD production.

Topping the list of new products to meet this goal is the Kahuna, a new family of production switchers that allow SD and HD to work side-by-side without any external converters.

The Kahuna accomplishes this using what the company calls "Format Fusion," technology that allows SD and HD sources to be placed on screen at their normal aspect ratios, using the keyers and DVEs built into the switcher.

Snell & Wilcox has been shipping the Kahuna for a couple of months to customers worldwide, including some in the United States.

"The industry reaction to the Kahuna has been extraordinary," said Joe Zaller, vice president of marketing and product management for Snell & Wilcox, speaking at the company's press conference on Sunday.

"[It] validates our conviction that what the industry needs is solutions that enable a measured, orderly and cost-effective transition to HDTV."

Joe Zaller, vice president of marketing and product management for Snell & Wilcox, holds up the company's new CVR-400 standards converter.

Also featured in this last sentiment are 25 new IQ modular cards announced by the company at NAB2005. These include cards such as the IQDEC00 12-bit decoder, synchronizer and audio embedder, with built-in video noise reduction.

The new modules run the gamut from audio to video applications. According to the company, all the video cards are capable of operating in SD or HD.

"The industry reaction to the Kahuna has been extraordinary."

—Joe Zaller, Snell & Wilcox

Production switchers are a critical component of any production, so critical that many programs cannot afford to take the chance of downtime or component failures.

Snell & Wilcox will address this with Kahuna Care, a multitier program of services to provide for worldwide support of Kahuna switchers. Depending on the level of services selected, customers can even arrange for on-site technicians for critical broadcast events.

Zaller said that the bottom line for Snell & Wilcox is literally the "bottom line."

"Its got to be affordable and affordable HD will be talked about a lot this week," he said. ■ *©2005 NAB*

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Avid Adds Multiple Broadcast and Post

Gear aims to make migration to high-definition production smoother

by Jay Ankeney

At the nation's largest broadcast conference, Avid President and CEO David Krall said his company changed a great deal in the last year.

"In many ways Avid is a different company than we were just 12 months ago, and we are very excited about what is coming up for us on both the broadcast and the consumer side of our business," Krall said.

Krall was referring not only to the purchase by Avid of M-Audio last year and its announced intention to acquire Pinnacle Systems this year, but also to the wealth of new products and upgrades Krall and his team revealed at NAB 2005.

The Avid iNEWS Instinct

REAL-TIME HD

On the post-production side, Avid unveiled Avid Symphony Nitris. Available in Q3, Avid Symphony Nitris combines the real-time HD performance of the Nitris Digital Nonlinear Accelerator hardware with Total Conform from the Media Composer line of NLEs. The new system also boasts 16-bit Spectramatte keying and 10-bit titling.

Also announced were Version 2.1 software for the Media Composer Adrenaline HD system, which delivers tapeless workflow support for Sony XDCAM and Panasonic P2 storage; and Version 7.6 for the Avid DS Nitris, intended for DI mastering on 2K and 4K media projects.

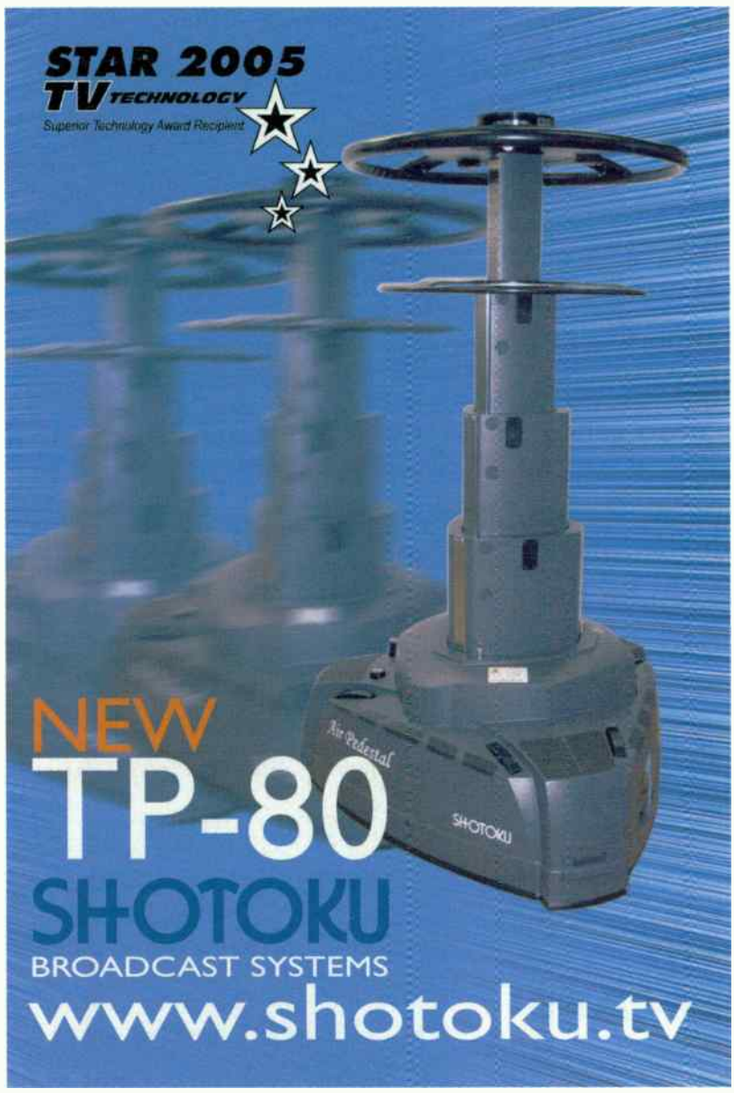
> **"In many ways Avid is a different company than we were just 12 months ago."**
>
> **—David Krall, Avid**

The Avid Xpress family has now been given the Avid Xpress Studio HD production suite, built around including Avid Xpress Pro HD, Avid Pro Tools LE, Avid 3D, Avid FX, and Avid DVD by Sonic.

On the broadcast side, the company's most exciting announcement was the all-new Avid iNews Instinct, a newsroom composition tool that allows journalists, staff and producers to create news stories by combining text with video footage.

For facilities tackling the move into HD, Avid also announced Avid DNxchange, a new input/output device that enables broadcasters to work with HD media without upgrading their SD serial digital interfaces.

Avid DNxchange lets a facility encode HD-SDI signals to Avid DNxHD so they can deliver the quality of uncompressed HD media with the bandwidth of SD files. ■ *©2005 NAB*



Leitch Rolls Out HD Solutions

ABC deal announced

by Susan Ashworth

Leitch arrived at NAB20005 with a solid balance sheet, four quarters of successful earnings and several recent acquisitions that helped boost the Toronto-based company's bottom line and expand the breadth of its HD offerings.

Tim Thorsteinson, president and CEO of Leitch announced new products and alliances at NAB2005.

The company announced a major contract with the ABC Television Network under which Leitch will replace two of the network's branding systems with the Logomotion II branding solution and the Inscriber Inca line of master control systems.

The systems will be used to create a consistent branding identity for ABC, as well as offer affiliates the ability to insert local data.

Leitch came to NAB with more HD products, including new graphics/digital signage solutions from newly acquired Inscriber, as well as test-and measurement offerings from Videotek.

Among the highlights is a new HD monitor that provides waveform, vector, gamut and other functions, and allows users to display up to four input sources simultaneously.

The company also introduced a new suite of editing products including the Nexio XNG, a field editor designed for journalists to use in remote locations; Velocity NX, an HD/SD editor; Velocity X, a software-only NLE; and new software for Velocity HD, an HD/SD NLE.

Other solutions found at the company's booth include the Inscriber Inca Studio HD, an HD graphics system; Inscriber Inca AutoCG HD, a graphics play-out solution; as well as the new X75 signal processor.

The company also showed off the capabilities of the NBC Weather Plus system, a round-the-clock digital weather and local news network deployed at NBC stations. The system uses the Leitch Digital Turnaround Processor for MPEG-2 transport stream switching, branding and control. ■ *©2005 NAB*

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26 x 7.8AIF.HR Tele Super Zoom
26 x 7.8AIF.HD Tele Super Zoom

"Our clients love the quality, and our operators have found the 26X Thales Angenieux lenses great for handheld camera work because they deliver the extra range we want for sports coverage while providing that extra degree of mobility," concluded Mr. Fain.

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Thomson Solidifies Grass Valley Brand

Digital cinema division launched

by Bob Kovacs

Thomson recently decided to market its broadcast and high-end television equipment under the Grass Valley brand, putting forth the well-known face as its global video production persona.

At NAB2005, Marc Valentin, president of Thomson, announced two new media-related divisions for the company, which has headquarters in Paris and Camarillo, Calif.

Technicolor Network Services will concentrate on play-out, asset management and channel origination for existing media and entertainment customers, while Technicolor Digital Cinema will focus on digital cinema preparation and distribution technology.

CHOICES

Thomson took its time to finalize the selection of the Grass Valley name as its brand for high-end television production, play-out, news production and post production.

"We're more at liberty to have different names and brands," Valentin said. "In the U.S., the response to selecting the Grass Valley name has been tremendous."

Driving much of the company's growth is the worldwide move to HD production, and Thomson has products for the acquisition, editing and distribution of both SD and HD content.

The top of the company's line in terms of image quality is its Viper FilmStream digital cinema camera, which now has a full-bandwidth solid-state docking recorder that can record 10 minutes of data.

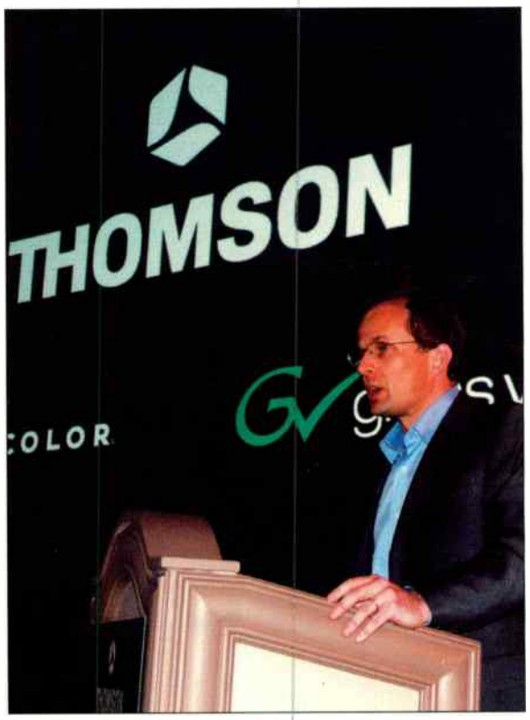
"HD is becoming the accepted—and expected—format for viewers," Valentin said.

As far as the Grass Valley division's products are concerned, Thomson will concentrate on what has been the brand's specialty.

"Our strategy is to first focus on broadcast and post production," he said.

Grass Valley will also work on products to support the parent company's Technicolor Digital Cinema division. Technicolor Digital Cinema already has more than 75 digital cinema systems installed worldwide and has so far managed 83 digital releases for eight studios. The company expects to roll out digital cinema in the United States using its SkyArc digital distribution systems, which support SD and HD content, 5.1 sound and digital projection.

Valentin also indicated the company plans to move into the professional audiovisual market, but he did not announce any products at the show. ■ ©2005 NAB



Marc Valentin, president of Thomson, discussed two new media divisions that were rolled out at NAB2005.

"In the U.S., the response to selecting the Grass Valley name has been tremendous."

—Marc Valentin, Thomson

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World Radio History

Miranda Merges HDV-SDI Gap

Format conversion and FireWire simplify transference

by Geoff Poister

There is a link missing between HDV and the HDTV broadcast realm that needs to be mended. HDV is an MPEG-2 format that doesn't interface easily with the existing HDTV formats. Miranda Technologies came to NAB2005 with the intention of overcoming that schism.

"That's basically what Miranda does," said Michel Proulx, senior vice president of product development. "We find problems in the broadcast industry and develop solutions."

HD BRIDGE

The main solution of the day for Miranda is the HD-Bridge DEC, an unassuming little box that solves a big problem. It converts the HDV format into HD-SDI and also allows a 1080i/720p conversion. The simple conversion is particularly helpful given that the Sony HDV camera records 1080i, while JVC cameras record at 720p.

Proulx described several ways the conversion box bridges the gap between HDV acquisition and editing and distribution.

One application is to run an IEEE-1394 cable from the camera, pass through the HD-Bridge DEC and go directly to

HD-Bridge DEC

disk storage as HD-SDI with embedded audio and timecode.

Another solution overcomes one of HDV's current weaknesses—somewhat cumbersome MPEG-2 editing. Using the Mirands HD-Bridge DEC, one can transfer footage captured on an HDV camera and send it uncompressed into and HD-SDI uncompressed editing system. Once in the HD-SDI form, existing editing systems will handle the material as HD-SDI, with full real-time capabilities.

ASI-Bridge

And, for editing in the native HDV format, the final edited video can be output to an HD VTR in HD-SDI for distribution in any existing format.

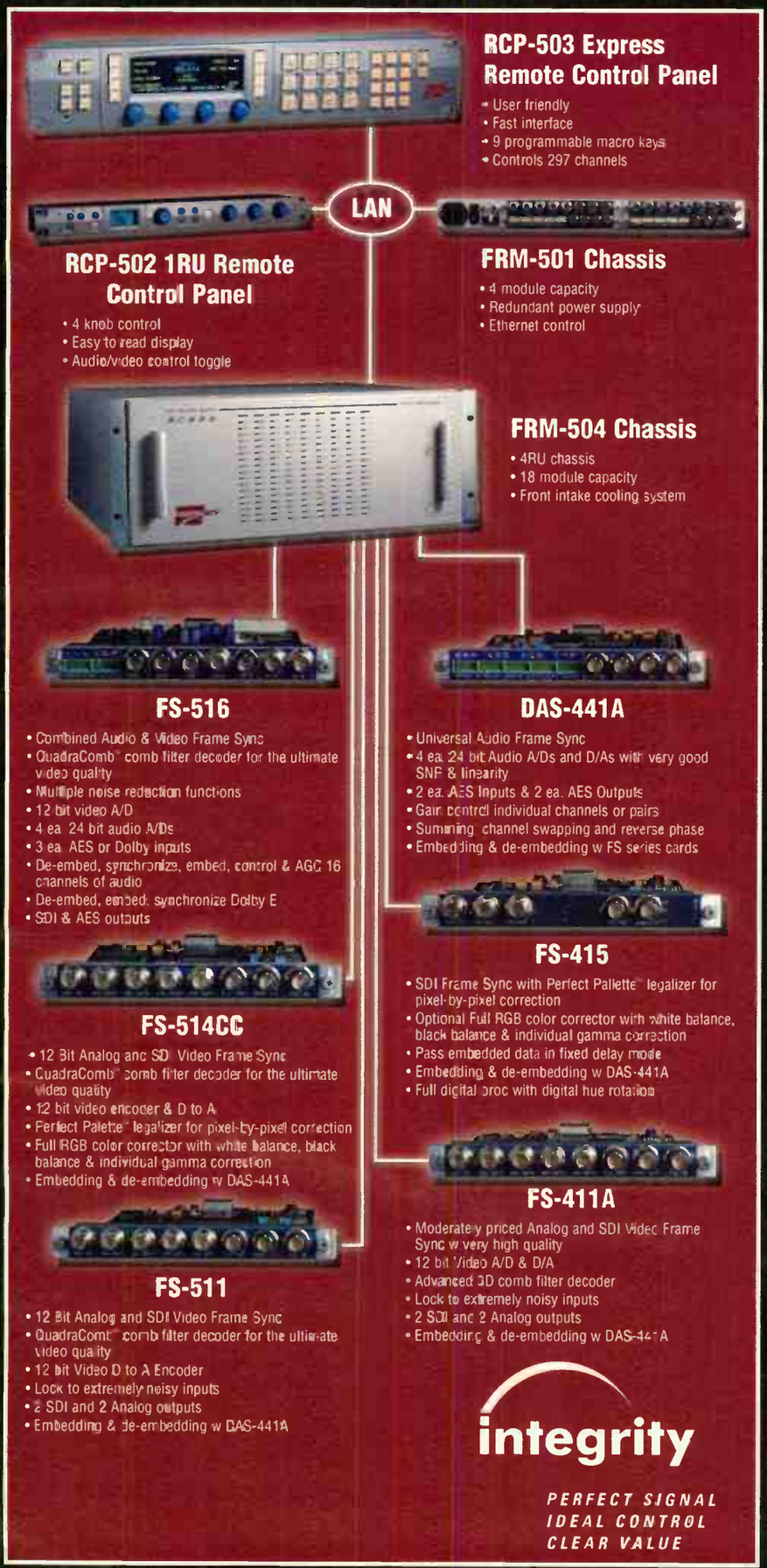
Finally, the box can be used by broadcasters to send HDV material directly to on-air play-out.

"The HD-Bridge DEC is priced under $3,000 to fit into the aggressive pricing we have already seen with the Sony and JVC cameras," Proulx said.

Miranda also predicted growth in the use of HDV in local news acquisition. In this area, the other major product launch is the ASI-Bridge, a camera-mounted HDV-to-ASI converter, which offers more direct transmission of HDV news footage, and easy onset recording of dailies using D-VHS. ■ ©2005 NAB

World Radio History

How does your digital transmission look on new digital TVs?
How does your converted analog compare to SDI origination?
Is your converted analog worthy of up-conversion to HD?



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World Radio History

Quantel Introduces Part-Time HD

Editing system uses password access for HD ingest and play-out

by Tom Butts

With the costs of high-definition production now within reach of even the smallest post houses, Quantel introduced an even more flexible way to upgrade to HD at NAB2005.

Taking its cue from the cell phone industry, the U.K.-based editing company is rolling out "Pay as you Go HD," a program that allows customers to purchase SD-only eQ editing systems and move to HD ingest and play-out by using a password provided by Quantel. Customers may purchase HD time on their systems in weekly increments for $2,250.

"Customers only pay for the HD as their HD business grows," said Steve Owen, Quantel marketing manager.

An eQ purchased in "Pay as you Go HD" configuration costs 60 percent of the standard "always on" system. Customers can opt for a full-time HD system as their high-def business increases.

NEWSBOX LAUNCHED

Quantel also launched "Newsbox," a prepackaged, self-contained integrated news production system unit that allows customers to ingest material, view rushes, choose shots, edit stories, review finished pieces and play them out to air.

The Quantel Newsbox

The $199,000 system offers the same user interface as the Quantel sQ product line, and with its new ingest and automation functions, it is the first "self-automating" server, according to the company. Quantel is promoting Newsbox as a "News to Go" compact system that fits into two 24-inch flightcases and can be set up and be running within a couple minutes.

On the graphics end, Quantel introduced Picturebox sQ for its Paintbox customers. Picturebox sQ plays out moving sequences in the form of clips as well as stills and is also upgradeable to high definition. Customers using both a Picturebox sQ and Paintbox can have a number of independent viewing and editing stations on the same network. The system also offers an optional slow-motion lever.

Scalability is the watchword for the expanded sQ server line at NAB2005. The company is rolling out a larger sQ server for larger installations and a new smaller model as well. A new "Self Automation" option for sQ offers "QRecord" and "Qplay" one-press, instant record and play-out.

Quantel is also introducing QColor Excel, which offers an interactive naturally intuitive color correction interface for iQ. Available in September, QColor Excel will be an option on new systems and can also be retrofitted to all existing iQ systems.

The company also is unveiling its Eiger (Effects, Imaging, Grading and Editing Release) software for eQ and iQ. ■

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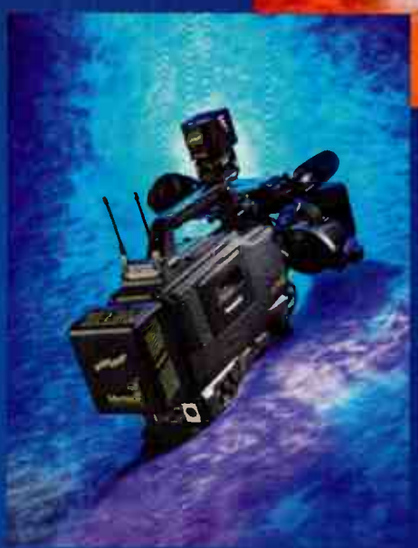

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World Radio History

JVC Anticipates HD to Reach Local Level

ProHD initiative aimed at making high-definition production an economical option

by Craig Johnston

"According to the Consumer Electronics Association, there will be over 20 million digital TV sets sold to consumers in 2005, and that's more digital sets than were in existence at the end of 2004," said Dave Walton, national marketing communications manager of JVC Professional Products Company, at the company's press conference at NAB2005.

"Broadcasters, cable and satellite providers have all seen this opportunity and have expanded their HD programming, especially on a national basis, but local programming has been slow to transition," he said.

The JVC GY-HD7000U

"Broadcasters, cable and satellite providers have all seen this opportunity and have expanded their HD programming, especially on a national basis, but local programming has been slow to transition."

—Dave Walton, JVC

He cited the major hurdle as cost, but warned that high-definition local programming represents expanded revenue possibilities and that stations may lose potential new revenue by delaying the transition to HD production.

Walton pointed to the ENG model and the inter station competition it spurred.

"We saw it in trucks, and we saw it in helicopters, and it's going to happen again with HD," he said.

The JVC ProHD initiative represents an economical solution to getting the stations into the HD production business. The company has products to help with this transition on two fronts.

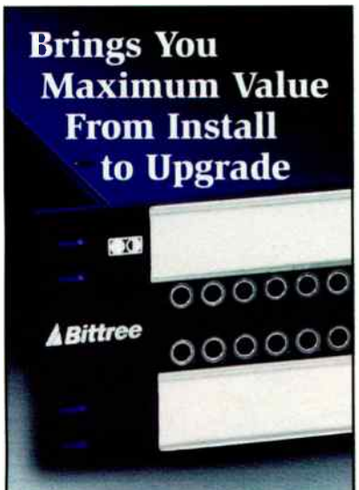
EXPANDED REVENUE

With the DM-JV600U MPEG-2 encoder, Walton explained how stations could transmit HD video over their existing microwave systems, eliminating the need to change out their entire microwave infrastructure.

On the camera side, the company showed several HDV camcorders, including three-chip models.

Brand new is the GY-HD7000U 2/3-inch HDTV camera recorder, incorporating the lower-cost and energy-efficient CMOS sensors, which records 1080i or 720p direct to a removable hard drive.

Also shown was what Walton termed the industry's smallest and most affordable HD cameras, the GY-HD100U, which features interchangeable lenses and records in true 24p. ■ *©2005 NAB*



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Network Electronics Builds on Fiber-Optic Product Line

VikinX gets a preview panel add-on

by John Merli

Network Electronics had more new products at NAB2005 than you could shake a router control panel at, starting with its upgraded VikinX modular CP-MDP.

This latest in its well-known line of VikinX products offers a video preview (both source and destination) using a high-resolution color display.

This is the Norwegian company's largest and most flexible panel to date, and features TCP/IP connectivity allowing previews on multiple panels.

Among the 15 new or upgraded products on display at NAB2005, according to software engineer Jan Georg Skuggedal, Network Electronics is keen on two add-ons to the VikinX modular routing line—the 128 x 128 AES router and the 64 x 64 analog audio router. The line has dual, hot-swappable and load-sharing power supplies.

MOT-BOX IT

As its new housing solution, the company unveiled MOT-BOX, a lightweight 3 RU mobile transport casing, which will accommodate its Flashlink single-processing products and fiber-optic transport platform.

The enclosure sports a rugged design and connector panel, making it suitable for mobile and outdoor events coverage, notably sports.

The ETH1000-MC—the company's new Ethernet media converter was in Vegas, too. Network Electronics also demonstrated its 16-channel CWDM system (HD and SD), and its MR-TR 2.5G fiber-optic transport platform.

The company, which has U.S. headquarters in Salt Lake City, also had some good financial news at NAB2005, both for itself and for potential clients, as it continues its pricing strategies of the last several months.

We have reduced the prices of our mobile routers by up to 25 percent as we expanded our development department."

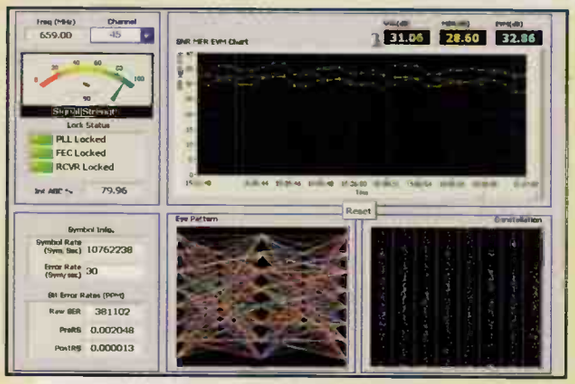
—Jan Georg Skuggedal, Network Electronics

"We have reduced the prices of our mobile routers by up to 25 percent as we expanded our development department," Skuggedal said. "And we experienced very good growth in the first quarter." ■ *©2005 NAB*

World Radio History

8vsb RECEIVER/ANALYZER

The msi-4400 8vsb ANALYZER—a cost-effective tool for receiving and evaluating 8vsb signals without breaking your budget.



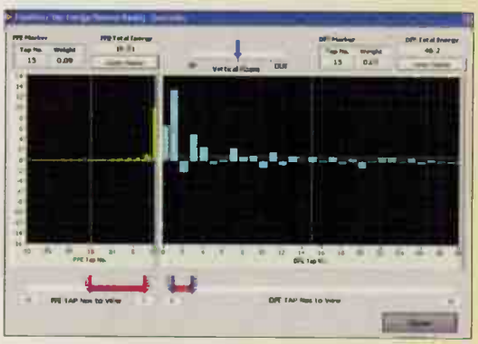
Hardware

A single rack unit controller, the **msi-4400** Analyzer receives and processes the 8vsb signal using a Windows-based PC. Front panel indicators show the status of alarms, and confirm RF level and signal strength. External connections for alarms, and transport stream in LVDS, SMPTE 310M and DVB-ASI formats are all accessible from the rear panel.

✓Accurate

Software

The **msi-4400** Analyzer's software runs on a Windows-based computer. The software provides a complete display that shows the critical 8vsb parameters in a clear, easy-to-understand format:

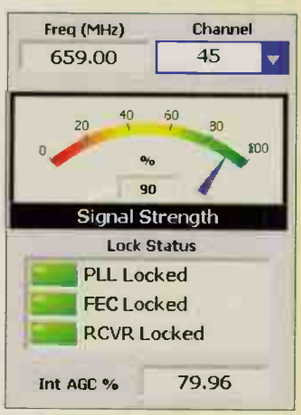


- Eye Pattern Diagram
- Constellation Display
- Signal Strength Metering
- Signal to Noise/MER/EVM Readout and Strip Chart
- Tap Weight Equalizer Graphs
- Data Logging
- Bit Error Rates
- User-configurable alarms with E-mail notification

✓Affordable

You can configure the tap weight scale display, data logging, SNR/MER/EVM strip charting and full remote control to meet your specific requirements.

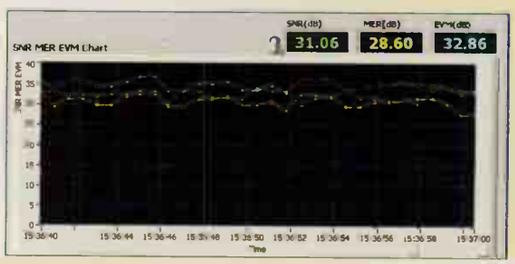
All reports and controls are available locally on a rack-mount PC or a laptop computer, or from a remote location through the Internet.



The **msi-4400** Analyzer is covered by MSI's three-year warranty.

Introductory price: $9860

✓Comprehensive



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World Radio History

Rohde & Schwarz Rolls Out Transmitters

New upgradable air-cooled VHF FM line introduced

by Mary C. Gruszka

Rohde & Schwarz announced the launch of a new family of air-cooled VHF FM transmitters at NAB2005.

The NR8200 family is based on the Rohde & Schwarz common platform for TV and sound broadcast transmitters, and covers a power range from 2.5 kW to 30 kW in a single unit.

The SU800 digital exciter, part of the transmitter platform, integrates AES/EBU inputs, to allow direct digital connections into the transmitter.

OTHER LAUNCHES

Also included in the package is the new VU825 power amplifier.

"Each power amplifier has an individual power supply, which provides another level of redundancy," said Tom Christenson, director of sales and marketing, transmission products, Rohde & Schwarz. "And each power amplifier has its own harmonic filter."

The Rohde & Schwarz NetCCU800 transmitter control unit allows all transmitter and amplifier parameters for diagnostics to be retrieved locally or remotely via IP, standard Web browsers and SNMP software.

"The trend is underway for broadcasting to mobile handhelds."
—Tom Christenson, Rhode & Schwarz

Christenson said that the time has come for IBOC with Rohde & Schwarz.

"With our new FM transmitters we're in the process of creating an upgrade path for support of IBOC," he said. "Customers can buy the transmitter now and upgrade very easily later. This will require additional hardware and firmware upgrades."

TELEVISION

On the TV side, Rohde & Schwarz launched the Nx8200 family of air-cooled medium-powered transmitters for both analog and digital television.

"The Sx800 exciter is a software-defined exciter that supports all current modulation standards, analog and digital," Christenson said. "The hardware is the same for all, except the input module."

The NetCCU800 controller can be used with the Nx8200 transmitters as well, and can be equipped with an optional DVB receiver module to monitor the transmit signal.

On the test and measurement front, Rohde & Schwarz introduced the FSH3-TV handheld TV analyzer for analog and digital terrestrial broadcast and cable TV measurements. The portable unit combines the functions of a full-blown spectrum analyzer and a TV test receiver. Measurement data stored in the analyzer can be transferred to a PC via USB.

TRANSMITTERS, PAGE 54

World Radio History

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STAR 2005 TV TECHNOLOGY

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World Radio History

Harris Moves Into Personal Video Market

Business unit launched to address emerging mobile applications

by Lauren Evoy Davis

Harris made several announcements at NAB2005, starting with the formation of two new business units—a software systems business unit and a network business unit.

With the new units and the company's global footprint, "the idea was to touch every broadcast customer around the globe," said Jeremy Wensinger, president of Harris Broadcast Communications Division.

TV BUSINESS

The Harris television business is continuing its growth in three areas: U.S. digital television, digital-to-analog conversions worldwide and mobile video for handheld devices.

The company introduced its H-Class Intelligent Transport content-delivery platform for next-generation rich media networks. This new platform allows users to recognize live and file-based video at the point of content contribution to the network as well as the point of content distribution to multiple devices.

Jeremy Wensinger, president of Harris Broadcast Communications Division, describes the new Harris business units at NAB2005.

Harris is also extending its reach to the government market, because, as Wensinger said, the government is a large consumer of rich media.

Additionally, Dale Mowry, vice president and general manager of television broadcast systems for Harris, was on hand to describe the standards-agnostic 30 kW Atlas analog transmitter—the company's flagship product for analog-to-digital converter.

MOBILE VIDEO

Regarding mobile video, Mowry addressed the question of "who is going to watch television on their cell phones," by showing a handheld device about the size of a PDA that featured full-motion video in 1080i.

"It's only a matter of time until a receiver chip in such display technology with extended battery life…" will be available, "which means that we'll be carrying our televisions in our jacket pockets," Mowry said.

On the radio side, Mike Starling, vice president of National Public Radio engineering spoke about the NPR digital broadcast of "Toast of a Nation" on New Year's Eve, which was broadcast with the help of Harris and Neural Audio.

"NPR is delighted to count Harris among its partners and couldn't be pleased more with their contributions to HD radio," Starling said.

On the show floor, the company demonstrated the Harris Z8HD solid-state transmitter, with an advanced peek at the new FlexStar FM HD exciter, the 3DX50 AM transmitter for domestic and international broadcasters, as well as the VSDMII, the all-digital consoles designed for smaller markets. ■ *©2005 NAB*

"We'll be carrying our televisions in our jacket pockets."

—Dale Mowry, Harris

Integrated Real Time Monitor & Analysis

The DVStation family of Preventive Monitoring systems simultaneously monitors multiple RF and MPEG-2 transport streams for errors and compliance to broadcast standards – providing valuable insurance against network failure.

Combining 8VSB modulation performance, MPEG-2 transport analysis, and comprehensive PSIP compliance verification, alarms and results are displayed both on the local touch screen or through a user friendly remote GUI.

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Transmitters

CONTINUED FROM PAGE 52

REAL-TIME ANALYZERS

Rohde & Schwarz SFU TV measurement platform and DVM family of MPEG-2 analyzers came to NAB2005 with enhancements based upon customer input.

Tom Christenson unveiled the new gear from Rhode & Schwarz at NAB2005.

"We continue to add features and capability for these platforms we brought out in previous years," Christenson said.

New SFU options include oscillator phase noise simulation, impulsive noise simulation, and transport stream recorder and player.

New DVM features include a streaming mechanism enabling the unit to integrate a software video decoder, a transport stream recorder and player, a software decoder for MPEG SD and HDTV, and DVB-H analyses.

"The trend is underway for broadcasting to mobile handhelds," Christenson said. "And Rohde & Schwarz is well positioned in supporting this technology."

Case in point: The new DV-ASC advanced stream combiner extends the company's existing DV-DVBH stream library for custom generation of DVB-H transport streams. Updates for the SFL-T TV test transmitter (used for checking TV receivers) add DVB-H functions.

Finally, the Rohde & Schwarz NV7000 transmitter supports the Qualcomm FLO technology for multicasting streaming video and audio to mobile phones. ■ *©2005 NAB*

World Radio History

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World Radio History

2005 Mario Award

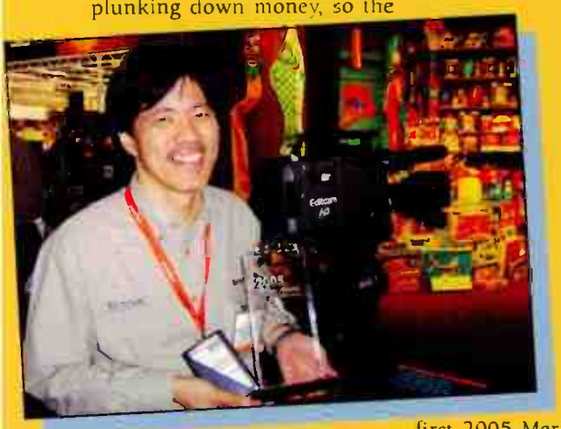
TV TECHNOLOGY

LAS VEGAS

NAB2005: Ah, the smell of inebriated attendees staggering down the aisles after leaving the Johnnie Walker whiskey-tasting booth (I am *not* making this up). Ah, the sight of flying storage at the Studio Network Solutions Hard Drive Toss (ditto). Ah, my editor wanting me to start writing about the awards.

READY TO MARKET

Panasonic announced an order for 25 of its new HD P2 camcorders. Now there's an example of blind faith. All you could see in their booth was a non-working model, and word was that they hadn't even fully designed the camera part. Equally off-limits was Sony's HD XDCAM camcorder. Call me old fashioned, but I'd rather see some pictures before plunking down money, so the



first 2005 Mario Award goes to **Ikegami** for its HDN-X10 Editcam. It's got full-rez CMOS HD sensors, uses Avid's DNxHD coding, and can store up to 100 GB (a lot more than XDCAM or P2) on a single instant-edit FieldPak2. You want flash memory? It'll do that, too. Yes!!!

SEEING THE LIGHT

That HD Editcam is one heck of a product, but, like most cameras, it could use some light. It doesn't need "digital light," which one NAB booth was pushing (I am *not* making this up), just light. My favorite light this year came from **Rololight's** Softbox system—and a *system* it is! Everything gets into the act—even the carrying case. Want more than one light source? Just pull out the plastic dowel. Harder or softer? Just change the angle. And cheapo extension cords are just fine (and will fit in said case). Yes!!!

ON A ROLL

So you've got a camcorder. What do you stick it on? I've got two winners. The first is **P+S Technik's** Skater mini dolly. It's less than three inches high and weighs just about 8 pounds, but it'll handle up to 66 pounds worth of camera and lens and provides its own tilt head. My favorite part is the precision

calibration of the steering of each wheel, and the software to tell you how to set them. It'll make any kind of move—repeatably! Yes!!!

BEHIND THE WHEEL

If you're the governor of California, you *might* be able to handle a 66-pound camcorder on the **Manfrotto/Bogen** Fig Rig. The rest of us will appreciate something lighter, but that doesn't mean it'll be unstable. I don't know

what the principle is, but, somehow, anyone holding the steering-wheel-like Fig Rig (designed by director Mike Figgis) can get steady shots even at full zoom, and thumb buttons control camera functions. Yes!!!

World Radio History

OUTTA SIGHT

Okay, so you've got your Ikegami Editcam on your Fig Rig or Skater dolly, and the Rolollight Softbox is making everything beautiful, and out comes your talent, and the sound is great, and there's not a mic in sight. Strike that. There's a mic in plain sight, but no one knows it's a mic. The **Pin-Mic** can look like a shirt button or a station-logo lapel pin. The "pin" part means the mic connections pass through clothing on sharp tiny pins, so there are no wires visible. Yes!!!

SOUNDS GOOD

Ready old-timers? Grass Valley camera. Sounds pretty weird, eh? Now try this one on for size: Avid live-sound mixing console. I am *not* making this up. I ain't been a fan of digital consoles, but Avid's (well, **Digidesign's**) Venue is so well thought-out that you get to control the faders and mutes even if the computer crashes. And, if it doesn't crash, you get all the power of a digital-audio workstation. Yes!!!

KEEPING IT LEVEL

So you've got your Pin-Mics feeding your Venue console, and you're doing a hot-and-heavy 5.1-channel mix. You ain't got time to figure out the dialogue normalization level, but the FCC says it's the law. That's why **Linear Acoustic** came up with AutoNorm. It ain't General Schwarzkopf's car-rental agency; it's a system that sets that pesky *dialnorm* parameter automatically and continuously. Yes!!!

LOTS OF ROOM

Okay, you've made pictures and sounds, and you've even dealt with *dialnorm*. Now you have to get them out there. The FCC says you've got to use MPEG-2 for one stream, but that doesn't mean you can't use something else for the rest. You could try some of the bizarre coding systems on the show floor, but you ain't going to find many comparably equipped consumers. **Helissio Technologies** had a suped-up, pre-processed, consumer-compatible AVC encoder carrying 720/24p at 1 Mbps. Okay, there are some not-very-objectionable artifacts. But you could maybe do a 4 Mbps MPEG-2 standard-definition transmission and have enough room left in your digital-TV broadcast channel for maybe a dozen HD movies. Yes!!!

SAY NO TO JITTER

That is, the Helissio-encoded signals will get to consumers if their decoders lock to your signal. There are all sorts of ways to keep them from doing so, like bad PSIP. Here's another: jitter. Quick, what's the jitter on your SMPTE 310 signal? How about the output of your exciter? Don't know? That's why **Belar** invented their JA-1 jitter analyzer. It doesn't fix anything, but it gives you the info you'll need to get on the horn to a manufacturer to fix the problem. Yes!!!

DON'T JUDGE A BOOK...

For my last pick, come with me to a nice suburban house plopped down in the Las Vegas Convention Center parking lot. Inside, you could find an "intelligent oven" in the kitchen. Does this have anything to do with TV technology? Nope. But the house will still be there for the Kitchen & Bath Industry Show, the National Hardware Show, the... you get the idea. Even where stuff in the house *was* video-related (for instance, the bathroom mirror that's also a TV), I didn't get it. But, in the master bedroom, I got it (except they ain't given it to me yet). That's where there was a fully-loaded bookcase on the wall. In a TV-watching mood? The **Reversica** Gyre 6300 hardware swings the bookcase away from the wall and flips it around to reveal a plasma TV. Yes!!!

NAB surely has changed. There used to be booths selling foot massagers. This year, they had electronic knee stimulators. Welcome, Johnnie Walker, to NAB.

Mario Orazio is the pseudonym of a well-known television engineer who wishes to remain anonymous. E-mail him at Mario_Orazio@imaspub.com.

2005 Mario Award

TV TECHNOLOGY

Ikegami: Shinichi Takahashi, section manager, Camera Design Dep; Rolollight: Robert Landes, president & CEO; P+S Technik: Anna Pfiffl, marketing; Bogen/Manfrotto: Kriss Brumngraber, marketing director (l) and Paul Wild, president, both of Bogen Imaging; Pin-Mic: John Coffey (l) of Coffey Sound and Ric Creaser, inventor of the Pin-Mic; Digidesign: Robert Scovill, market manager (l) and Lee Stein, North American sales manager; Linear Acoustic: Tim Carroll, president; Helissio Technologies: Michael Aryev, president (l), and David Blum, CTO; Belar: Dwight Macomber, staff engineer, R&D; Reversica: William Jefferson Sloan III, president

World Radio History

STAR 2005

TV TECHNOLOGY

Superior Technology Award Recipient

Adobe
(L to R) Maria Yap and Daniel Brown accept the STAR award for Photoshop CS2, featuring a built-in utility to export images to a connected port for viewing on a TV monitor. Other new features are aimed at still photographers, but add value for digital content creators as well.

Canon
Gordon Tubbs accepts the STAR award for the HJ17ex7.6B Lens Series for ENG. Canon has primed the HD newsgathering market with this new series of portable HD lenses. Smaller, lighter, and lower cost than its full production counterpart, the HJ17ex7.7B HD lens for HD field production, the HJ17ex7.6B has a 7.6mm-130mm focal length range (or 15.2mm to 260mm with extender) and weighs just 3.5 pounds.

Arri
Thomas Greiser, technical representative, Locpro and Digital Imaging, accepts the STAR award for the Arriflex D-20 film style digital camera. The D-20 uses three CMOS sensors but combines some of the best features of film and HD video cameras.

Clear-Com
(L to R) Chris Exelby, managing director and Michael Wang, vice president of marketing, accept the STAR award for Clear-Com's CellCom, a cellular-based intercom system that allows installation of active cellular antennas throughout large facilities. Crew members with CellCom belt packs are free to roam throughout the building or site, constantly within touch via the intercom.

Avid
Jim Frantzreb, senior product marketing manager for Avid accepts the STAR award for DNxchange, a new I/O that enables users to work with HD media without upgrading their SDI infrastructure. DNxchange lets a facility encode HD-SDI signals to Avid DNxHD so they can deliver the quality of uncompressed HD media with the bandwidth of SD files.

Echolab
(L to R) Battista Remati, marketing manager, Paul Ernest, engineer and Roger Smith, chief engineer, accept the STAR award for Echolab's Nova identity4 production switcher. Nova identity4 breaks the power barrier in small to medium sized production switchers in two ways: it draws an amazingly low 25W and comes standard with a long list of keyers, DVEs, matte generators and even Photoshop.

Axcera
(L ro R) Kenneth Foutz, senior vice president and COO for Axcera, and Mike Rosso, vice president of sales for Axcera, accept the STAR award for Axcera's DVB-H mobile video system that transmits video to mobile handheld receivers. The 1.6 GHz system uses a low power Axcera transmitter along with other components, including an RF filter from MYAT.

Frezzi
Ken Crawford of Frezzi Energy Systems accepts the STAR award for the Full Spectrum LED Light. Touted as the world's first full color LED light for camera top and stand mounting, the "FS-LED" features the highest lumen 18 W LED engine on the market, 5500°K and 3200°K presets, electronic dimming with preset and user programmable color presets in a mini-arc style chassis.

Blackmagic Design
Blackmagic Design CEO Grant Petty accepts the STAR award for the Multibridge Extreme/Studio, a family of two bidirectional I/O devices that use PCI Express technology for fast access to computing platforms.

Fujinon
Dave Waddell, marketing manager for Fujinon accepts the STAR award for the Precision Focus Assist System for HD. Fujinon's Precision Focus Assist eliminates much of the guesswork needed to focus moving subjects in HD, making images clearer and enabling shots to be ready to be switched on-air sooner.

Canare
(L to R) Beth White, marketing specialist and Naoki Yoshimori, vice president of engineering for Canare, accept the STAR award for the company's pocket-size hybrid fiber optic Cable Checker, which allows fast, easy confirmation of HFO cables in the field. The compact design features a backlit digital display to measure optic loss and electrical continuity.

Helissio Technologies
(L to R) Michael Aryev, president and David Blum, chief technology officer for Helissio Technologies, accept the STAR award for the 720/24p AVC encoder. This small Florida-based startup demonstrated a prototype H.264 encoder that realizes the true potential of AVC compression, bringing crisp high-def video in at 1 Mbps.

World Radio History

JVC
Dave Walton of JVC accepts the STAR award for the company's GY-HD100U Pro HD camcorder. The camera features full resolution HD progressive recording, as well as 24p capability and dual media recording on disc or tape. Teamed up with JVC's new DR-HD100 portable hard drive and its DM-JV600 MPEG encoder, the GY-HD100U provides a cost effective and reliable entry into HD news.

Network Electronics
(L to R) Kenneth Johnson and Cameron Francis of Network Electronics accept the STAR for the MOT-BOX. The MOT-BOX's rugged design and connector panel, designed to protect flashlink optical transport signal processing and distribution cards including WDM/CWDM, includes an expanded beam hermaphroditid fiber connector making it ideal for mobile and outside broadcast applications.

Kodak
Jim Minno, Kodak's television segment manager, accepts the STAR award for the HD Vision 2 film system for TV. The system includes new high-speed Vision 2 filmstocks and a Vision 2 HD digital processor, used to emulate the tone and color of Kodak color negative films, when converted to HD.

Panasonic
Jan Crittendon of Panasonic accepts the STAR for the AG-HVX200, the first HD camcorder to carry the P2 logo. Sporting a price tag under $10,000, the camcorder records in both 720p and 1080i and features two P2 card slots as well as a built-in tape mechanism to record onto MiniDV.

Leitch Technology
Randy Conrod, product manager-digital products for Leitch Technology accepts the STAR for the X75HD multiple path converter/synchronizer. The uniquely versatile X75HD allows broadcasters to do more with less equipment by combining up/down/cross conversion, HD frame sync and extensive video and audio processing capabilities all in a 1RU package.

PESA Switching Systems
(L to R) Steve Miller and Bob McAlpine of PESA accept the STAR for the Cheetah V5. Previous routing solutions on the market featured DVI/VGA to transport over fiber optic link. This latest version of this popular router allows DVI/VGA to be routed over a SMPTE 292M HD-SDI link, ensuring a future-proof matrix switcher system that can later be used with SDI and HD-SDI sources, as well as wideband signals in the same frame.

Linear Acoustic
(L to R) Tim Carroll and George Smith of Linear Acoustic accept the STAR for the AutoNorm Automatic Dialog Normalization System, an innovative approach to solving long-term loudness problems by generating audio-loudness metadata for HDTV 5.1 channel surround sound audio.

Editware/Prime Image
(L to R) Bob Kelly of Prime Image and Jay Cooley of Editware accept the STAR for Editware's new Fastrack TT interface for Prime Image's Time Tailor system. Fastrack TT automates the process of reducing a program's run time without content loss or the artifacts usually introduced by vari-speed VTR playback.

Linear Acoustic
(L to R) George Smith and Tim Carroll of Linear Acoustic accept the STAR for the StreamStacker. The system, consisting of the LA-5421 StreamStacker audio Bitstream Multiplexer and the LA-5124 StreamStacker De-Multiplexer/AC-3 Splicer combines up to four multichannel AC-3 programs into a single AES pair, offering enhanced channel density.

Riedel Communications
Thomas Riedel of Riedel accepts the STAR for the Performer C3, the first digital beltpack intercom system for two-wire party line communications. Featuring easier setup and better sound quality, the C3 is an ergonomically shaped, fully digital 2-channel belt-pack that includes popular features from conventional analog party line systems including daisy-chaining.

Matrox
(L to R) Janet Matey and Albert Cieri of Matrox accept the STAR for Axio. Axio enables realtime editing of virtually all SD and most HD formats including many real-time video effects and many 3D DVEs, blurs, soft focus, chroma and luma keying… four layers plus graphics in 10 bit SD. It supports 1080i and 720p formats plus 1080p 24 in HD SDI, 1394, SDI, and all the analog IOs. Overall, it offers a huge bang for the buck.

Rohde & Schwarz
(L to R) Werner R. Duerport and Eddy Vanderkerken accept the STAR for the FSH-3-TV, a compact handheld TV analyzer that measures both analog and digital TV signals. Especially useful for mobile use, the FSH-3 contains a full-blown spectrum analyzer and TV test receiver—in short, it pretty much does it all in a portable package. Measurements can be stored in instrument or uploaded to a PC via USB.

Miranda Technologies
Gilbert Besnard accepts the STAR for the HD-Bridge DEC. The world of HDV is off and running, but there are plenty of gaps between the relatively few available first-round product offerings. Just as it has always done, Miranda has rushed to the rescue, offering HDV shooters an easy and cost-effective method of creating true 1080i and 720p high-def video from the compressed MPEG-2 HDV format, while preserving time code data.

Serious Magic
Serious Magic CTO Stephan Schaem accepts the STAR award for Ultra 2 keyer and virtual set software. With Serious Magic Ultra 2, one can take footage shot simply against a colored screen and deliver the effect of elaborate camera moves, cranes and zooms with moving subjects in 3D space—all for a few hundred dollars.

World Radio History

Shook Mobile Technology
Ron Crockett, president of Shook Mobile Technology accepts the STAR from TV Technology Managing Editor Deborah McAdams for the A-15 HD EFP production vehicle. Sporting a price tag of under $1 million (about a third the price of similarly equiped trucks), the 21 foot, 17,000-pound Ford LCF chassis vehicle is equipped with three HD cameras, digital audio, Chyron graphics and Riedel intercoms.

Shotoku
Shotoku President Naoki Ebimoto accepts the STAR for the TP-80, a pneumatic pedestal featuring new design and technology. The TP-80 uses about half the air pressure as competing models, and yet can support 275 pounds, a bit more than the competitors. It also sports a nice cable guard height adjustment mechanism.

Sigma Electronics
With lip sync becoming an increasing problem in DTV broadcasts, Sigma Electronics' patented Arbalest lip-sync encoder/decoder is the right technology at the right time. Arbalest solves the lip sync problem by embedding cue and time information from video into the audio and syncs the two on the end. Stan Chayka of Sigma Electronics accepts the STAR for Arbalest.

Snell & Wilcox
David Bingham of Snell & Wilcox accepts the STAR Award for the Kahuna. With internal cross conversion, multiformat 1080i/720p I/O, Snell's Kahuna HD/SD production switcher solves many of the issues surrounding SD and HD signals simultaneously in a single package.

Sony
(L to R) Juan Martinez and Andy Berger of Sony accept the STAR for the HVR-Z1U HDV video camera and deck. Sony's first HDV camcorder has created quite a buzz and is already being used on several high-def productions on network primetime. Featuring three newly developed Super HAD 1/3-inch 16:9 native CCDs along with a 12X Optical Zoom Carl Zeiss lens, the HVR-Z1U records sharp hi-def images onto DVCAM cassettes.

Synthetic Aperture
Bob Currier of Synthetic Aperture accepts the STAR for Version 2.0 of Color Finesse. This new version (formerly plug-in only) provides standalone functionality for this inexpensive, outstanding color correction utility, and adds Final Cut Pro XML compatibility, a timeline interface, and Cineon, DPX and TIFF sequence read/write handling, in addition to many other improvements.

Telecast
(L to R) Nathan Zuber of Telecast accepts the STAR Award from Tom Butts, editor of TV Technology, for the Rattler, a mini HD/SDI transmitter and receiver set. Rattler accepts a coax input into the TX unit for uncompressed signal output on fiber and turns it back into coaxial video with the RX unit. Each device measures 3-inches long, weighs around 1.8 ounces and derives power from a standard USB cable.

Thales Angenieux/Vision III
(L to R) Christopher Mayhew of Vision III Imaging and Christopher Beauparlant of Thales Angenieux accept the STAR for the V-3 3D Optics System. This system relies on a normal camera, lens and display system without special glasses. The Moving Optical Element parallax scanning lens device sits between the lens and the camera, varying the parallax view of the lens.

Tiffen/Steadicam
(L to R) Jerry Holway and Steven Tiffen of Tiffen accept the STAR for the Merlin, a new lightweight camera stabilizer that weighs less than a can of soda and measures as little as 3.5 x 2 x 11 inches—perfect for videographers wanting a small, lightweight stabilizer for local news productions.

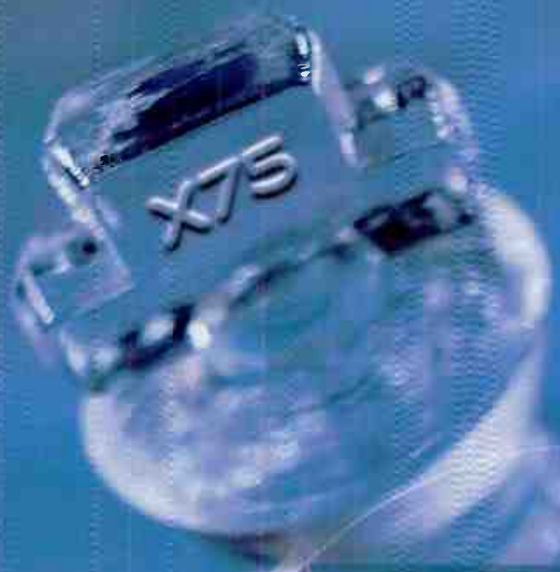
TVOne
TV One President David Barnes accepts the STAR for the C2-7200 Dual-Channel Video Processor. The C2-7200 can do it all—in two directions simultaneously. In addition to bi-directional capability to convert any SD and HD format into any other format, the C2-7200 is also a switcher and keyer, enabling insets, picture-in-picture, aspect ratio conversion and the ability to mix formats onscreen.

Quantum SX Systems/vfgadgets.com
(L to R) Gino Phares, vice president, sales and Allen Kool, president/CEO of Quantum SX Systems accept the award for the QT-256WP mini transmitter. The waterproof model is a 256 channel-capable wireless microphone transmitter in a small form-factor. If you're going to have the reporter stand out in a hurricane to report the news, you don't want to have to worry about drowning the wireless mic transmitter.

Zaxcom
Glenn Sanders, president of Zaxcom, accepts the STAR award for the TRX900. The TRX900 two-way wireless microphone features a built-in IFB receiver enabling announcers to talk and listen to the IFB simultaneously from one beltpack wireless transmitter—and a very small one at that.

World Radio History

[King of Processors]



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World Radio History

Riedel Launches Digital Beltpack

Syncronized Radio Network demonstrated on NAB2005 exhibit floor

by Mary C. Gruszka

While digital four-wire matrix intercom systems have been available for some time, the two-wire party line beltpacks have remained analog. Until NAB2005.

Riedel Communications introduced the Performer C3 beltpack, which the company said is the world's first digital beltpack.

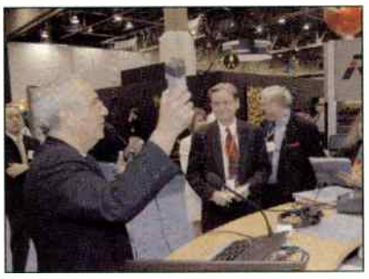
"Riedel's strategy is to expand into more party line products for 2005," said Vinnie Macri, sales and marketing manager for Riedel. "And the first introduction is the new digital beltpack."

The C3 beltpack connects to the Riedel Artist Series digital intercom matrix via the AES3 protocol.

SOLVES PROBLEMS

"This solves a lot of problems that analog beltpacks have," Macri said. "The new beltpacks provide clear, trouble-free communications."

Supporting the new beltpack are two other new products—the C44 system interface and the C31 1 x 3 splitter box. The C44 is connected between the beltpack drops and the intercom matrix and provides the necessary DC voltage to power the beltpacks.



Vinnie Macri held up the Performer C3 beltpack at the Riedel booth at NAB2005.

Riedel also introduced the new Artist 2000 Series of intercom panels with LCD displays. These panels offer a lower cost alternative to the 1000 Series premium panels, Macri said.

"They have the same features as the premium panels, but without any of the options such as analog audio inputs and outputs and GPIs and GPOs," he said.

The 2000 Series panels feature eight-digit full graphic LCD displays showing label and crosspoint level for each talk key. The illuminated talk keys indicate their mode by different definable colors.

"Riedel's strategy is to expand into more party line products for 2005."

—Vinnie Macri, Riedel

Other new products on the Riedel roster included the DYH-101 and DYH-102 digital telephone hybrids for bidirectional communication between the intercom matrix and a standard DTMF-capable analog telephone line. The DYH-102 has the added capability of voice over IP support.

"The voice over IP interface allows us to remote any of our keypanels to voice over IP networks," Macri said.

OVERLAPPING COVERAGE

Riedel also demonstrated its new Synchronized Radio Network.

The system uses several transmitters with overlapping coverage patterns to send out the same signal on the same frequency, and obviates the need for high-powered transmitters and antennas placed high up.

Macri said that any of the Riedel key panels could be set up as an announcer's panel, with a single coax carrying AES audio providing two channels. However, not every situation requires such a full-featured panel.

To that end, Macri said, "we plan to partner with other manufacturers to develop products for the broadcast industry."

One result of such collaboration is the Studio Technologies Model 200 announcer's console, which incorporates the circuit board from the Riedel C2 digital beltpack modified to work with the box.

The announcer's console retains the Studio Technologies mic preamplifier and headphone driver, cough and talkback switches and level controls.

The box can operate in split-ear or stereo mode, and is linked to the Riedel intercom matrix via standard AES3 connections.

In another collaborative effort, Bittree developed a patchbay with RJ-45 connectors to specifically connect to the Artist intercom matrix, as well as E3 connectors for audio I/O. ■ ©2005 NAB

World Radio History

Quartz Gets Greater U.S. Access

Marketing deal with Sony extends the reach of U.K.-based manufacturer

by Farah Jifri

A marketing agreement between Quartz and Sony was unveiled at NAB2005. The deal will allow the Sony sales force to bundle Quartz products along with its own for sale in the United States, while enabling Quartz to reach a wider customer base. The company will maintain its existing distribution channels in the United States.

The Quartz QMC-2 Master Control

"Having access to such a large sales force is great news for us," said Pete Challinger of Quartz.

SWITCHABLE CONTROL

Quartz also addressed the move towards HD with the unveiling of its QMC-2, the new high-end master control product from the company's QMC range. Based around a new hardware platform, QMC-2 is HD/SD-switchable, supporting a range of SD and HD formats.

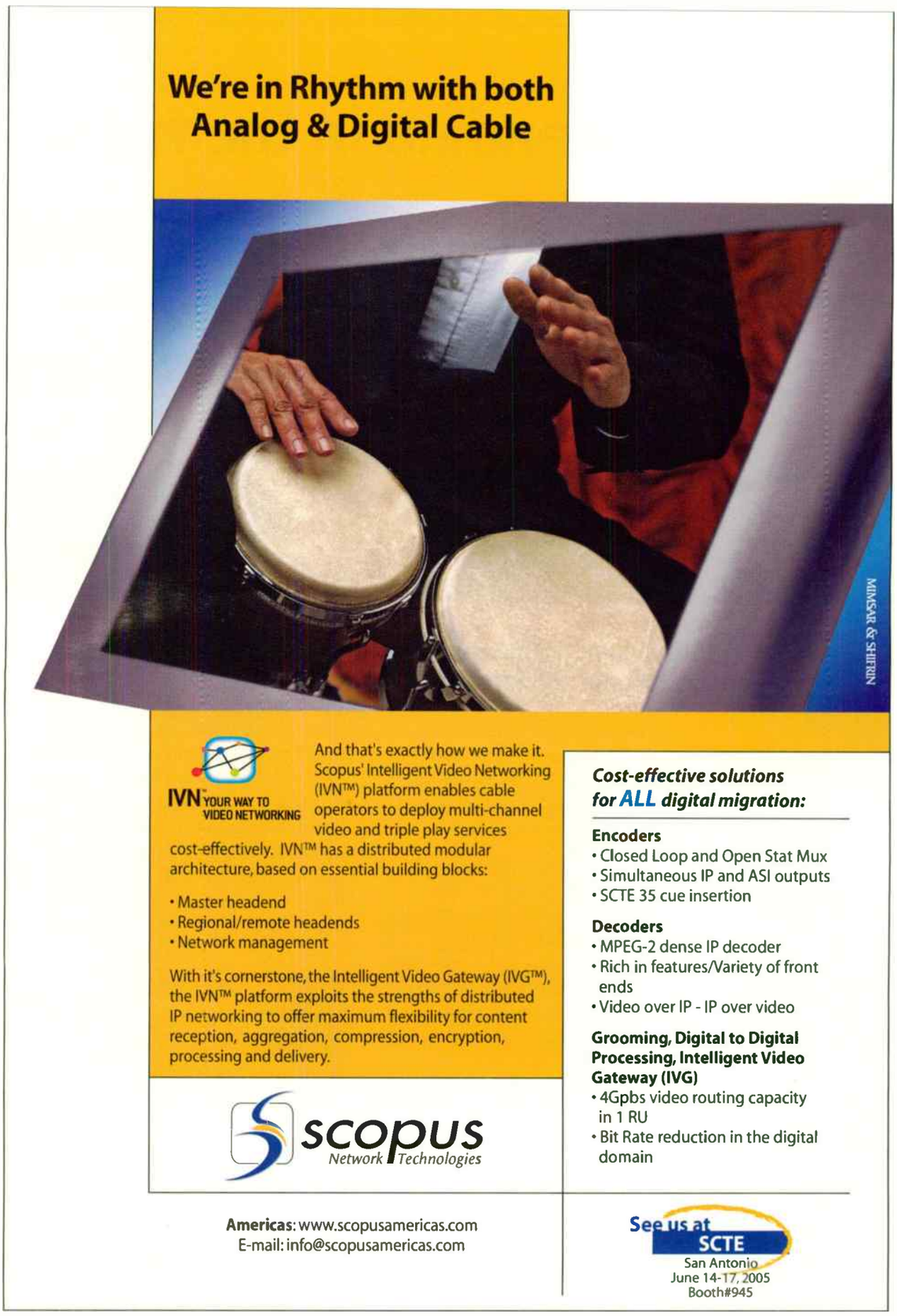
"Having access to such a large sales force is great news for us."
—Pete Challinger

"People buying SD now want to make sure that they can make the change to HD," Challinger said. "A lot of people out there have mixed channels, so they want to be able to support both SD and HD."

QMC-2 supports dual-link Dolby E via 16 channels of audio—with four groups of embedded audio—and internal Dolby E decoding. This allows broadcasters to easily cope with 5.1 surround, stereo downmixes, additional languages and descriptive audio streams.

Additional features include two layers of internal logo storage/keying and animated logo capabilities via three external key layers. QMC-2 is also fully compatible with the existing QMC products.

The new master control is currently shipping, with units already in use at both Fox Broadcasting in Los Angeles and Turner Entertainment Networks in Atlanta. ■ *©2005 NAB*



World Radio History

PESA Brand to Continue with QuStream

New mid-sized and fiber-optic switchers rolled out at NAB2005

by Bob Kovacs

PESA Switching Systems, a Huntsville, Ala.-based manufacturer of routing and master control switchers, announced several new routers at NAB2005, including an expanded version of the company's Photonic Router.

In addition, the company announced two new models of its Cheetah switcher line, aimed at users who need a mid-sized switcher in the smallest possible space. These switchers, the Cheetah 64NE and 64XE, are both 64 x 64 routers; the difference is that the 64XE can be expanded to 64 x 128, while the 64NE is fixed at 64 x 64.

Fred Godard, CEO of QuStream, explains the company's acquisition of PESA Switching Systems.

"If you're looking for energy—like a coiled spring—you have to look at the people."
—Fred Godard, QuStream

PESA was recently acquired by QuStream, which will continue the PESA brand. QuStream CEO Fred Godard said his research indicated PESA had much untapped capability.

"If you're looking for energy—like a coiled spring—you have to look at the people," he said. "What we've done with this acquisition was to uncoil the spring."

ROUTING OPTICALLY

PESA made a splash last year with its new Photonic Switcher, which has the ability to route optical signals from fiber. At NAB2005, the company introduced the FXD Photonic Switcher, which has a 16 x 16 matrix. The FXD will route any signal format, including signals of any definition, and it fits into a 2 RU space.

Moving to larger switchers, PESA announced the TDM3000, a digital audio switcher that can be built up to a 1024 x 1024 matrix and fits into a 24 RU frame. Smaller versions of the TDM3000 will fit into an 8 RU frame.

The company also announced a flurry of recent sales, including a large order from the U.S. government for Cheetah switchers with single-mode fiber outputs.

Another recent order was from Lockheed Martin for a Cheetah V5 digital component router that will be used to upgrade the U.S. Army's USSTRATCOM headquarters facility in Nebraska. ■

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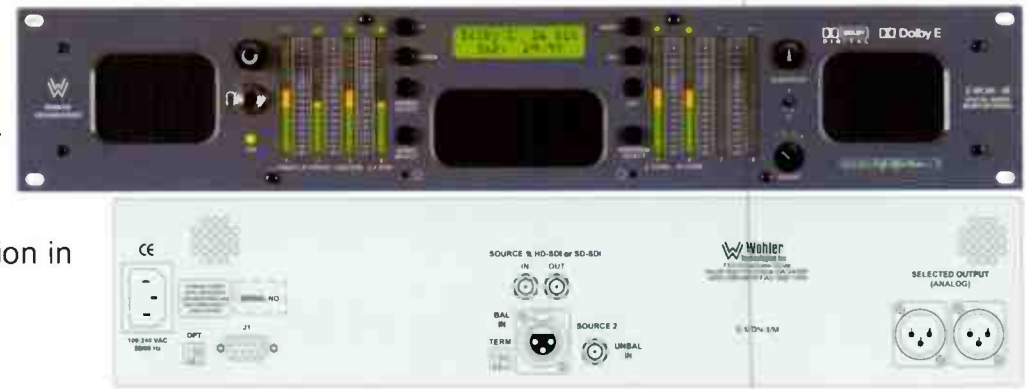

FEATURES

- Deembeds AES audio and Dolby® E and Dolby® Digital from an HD-SDI or SD-SDI input
- Includes an Internal Dolby® E & Dolby® Digital Decoder
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- Powerful 104dB SPL at 2 feet (0.6m)

INPUTS

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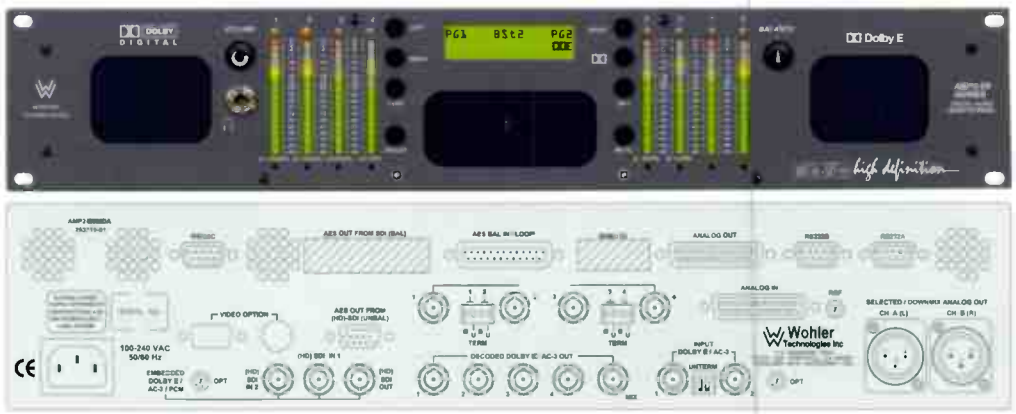

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- Powerful 104dB SPL at 2 feet (0.6m)
- Premium Quality Drivers & Power Amplifiers
- Excellent Frequency Response and Low Distortion
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- Phase-Correlation Display of Selected Channels
- Eight 53-Segment Tri-Color LED Bargraphs displaying Simultaneous VU and PPM
- Headphone Jack (mutes speakers)
- Front Panel Summing of any Combination of up to 8 Channels to the Left and/or Right Speakers & Selected Analog Outputs

INPUTS

- Analog Audio
- AES/EBU Audio
- HD-SDI or SD-SDI with Embedded AES/EBU Audio, Embedded Dolby® Digital Audio, or Embedded Dolby® E
- Dolby® E or Dolby® Digital Audio

OUTPUTS

- 8 Analog Outputs Demuxed from any 2 HD-SDI or SD-SDI Audio Groups or Converted from AES/EBU Digital Inputs
- 4 AES/EBU Digital Outputs Demuxed from any 2 HD-SDI or SD-SDI Audio Groups
- AES/EBU output of decoded Dolby® E/Dolby® Digital

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DMUX

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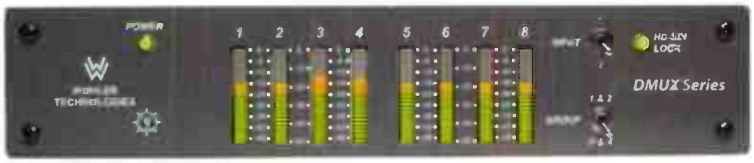
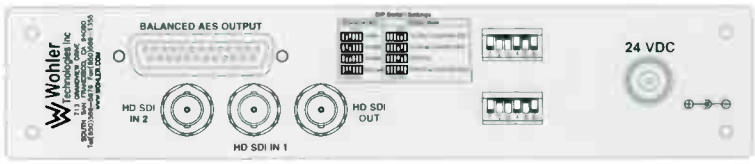
- Optional Vertical 26 Segment Audio Level Meters

MaxDMUX

- 2 RU Chassis
- HD & SD-SDI Versions
- 2 SDI Inputs, Select 1
- 1 Composite Video Output
- 8 AES Outputs
- 16 Balanced Analog Outputs
- Vertical 53 Segment Audio Level Meters



MiniDMUX-L8HD Shown



VMSDA-1

VMMDA-1

HD-SDI & SD-SDI Embedded Audio Confidence Monitors

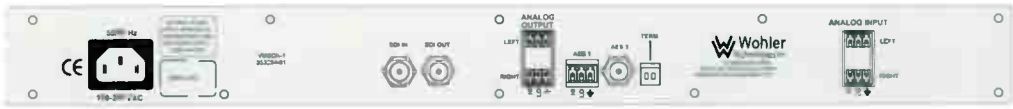
Sometimes, you want to do basic confidence monitoring of HD or SD-SDI embedded audio, without all of the functionality & quality of the AMP Series, here's how!

VMSDA-1

Confidence Digital & Analog Audio Monitor with SD-SDI input

VMMDA-1

Confidence Digital & Analog Audio Monitor HD-SDI or SD-SDI inputs



FEATURES

- Only One Rack Space High
- 96dB SPL at 2 feet (0.6m)
- VM Series "Confidence" speaker system
- Select from Balanced or Unbalanced AES/EBU digital and Analog Sources
- 1 Balanced AES/EBU Input on mini Phoenix
- 1 Unbalanced AES/EBU Input on BNC
- 2 Balanced Analog Inputs (1 Stereo) on mini-Phoenix Connectors
- 2 Balanced Analog Outputs (1 Stereo) on mini Phoenix Connectors
- 2 Ten-Segment VU Level Meters
- 1 SDI input with reclocked SDI out
- Phase / Polarity Indication
- Front Panel Speaker Muting
- Thorough Magnetic Shielding for Placement next to Video Monitors
- Headphone Jack, Mutes Speakers
- Lightweight and Shallow-Depth Chassis

World Radio History

Audio level metering & Alarm products with Dual Format HD-SDI / SD-SDI inputs for today's & tomorrow's applications

Wohler

Wohler s Family of 26 & 53 Segment LED Bargraph Level Meters get a major expansion with the addition of new Models for both HD-SDI and SD-SDI.

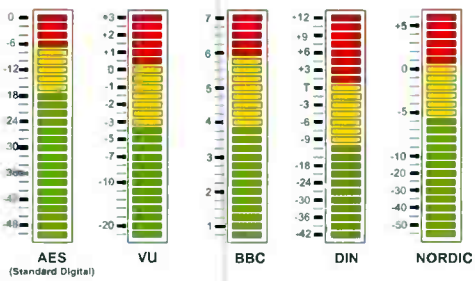
LEVEL METERING

- Industry leading wide Dynamic range
- 1 or 2dB midscale resolution (53 or 26 seg.), with extended VU Scale
- Selectable Display Modes: VU Only, VU/PPM or PPM Only
- Selectable PPM or VU Peak Hold: Off, 3-Second, or 10-Second
- Selectable PPM Ballistics: IEC 268-10 Type I, IEC 268-10 Type II, DIN 45406 or Single Sample Rise Time
- Selectable Phase Correlation Feature: On / Off** (only available on 53 segment meters with certain scales - contact factory)
- Selectable Bargraphs: Extended VU, VU, BBC, NORDIC, DIN and CUSTOM**
- User Selectable Reference Level of -8, -18 or -20 dBfs

* Manual peak hold is also available by custom order, a front panel reset switch is required.

** Though the bargraph ballistics may be changed via dip switch, the front panel scales should be ordered from Wohler either with the unit or at a later date. AES (standard Digital) scales are supplied unless requested otherwise.

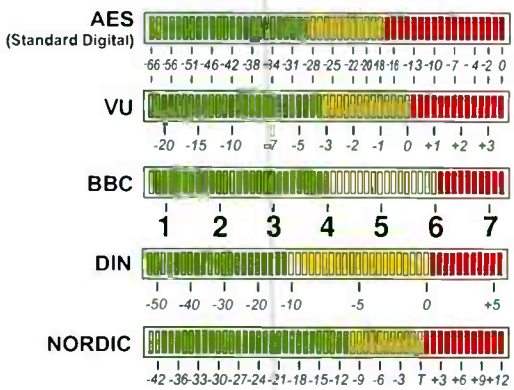
26 Segments



ALARM FEATURES (Where Applicable)

- Visual & Acoustic Alarm Indication of:
  - Phase Error Monitoring
  - Signal Loss Monitoring
  - Carrier Loss Monitoring
  - Over-Range Monitoring
- Programmable with Supplied Windows™ Compatible Software
- Per Channel Pair Contact Closures on a DB-25 Connector
- Full Duplex Baud RS-232 Control & Status

53-Segment LED Bargraph



MODELS

LM53-8M	HD-SDI / SD-SDI input with auto-detection & 8 fifty-three segment horizontal meters in 1RU
LM26-16M	HD-SDI / SD-SDI input with auto-detection & 16 twenty-six segment vertical meters in 1RU
LM53-16M	HD-SDI / SD-SDI input with auto-detection & 16 fifty-three segment vertical meters in 2RU
LM53-16SDI	SD-SDI input & 16 fifty-three segment vertical meters in 2RU
ALM26-16M	HD-SDI / SD-SDI input with auto-detection, audio alarms & 16 twenty-six segment vertical meters in 1RU
ALM53-16M	HD-SDI / SD-SDI input with auto-detection, audio alarms & 16 fifty-three segment vertical meters in 2RU

World Radio History

Wohler

New Advanced Audio Alarm Software

We've updated our Windows Compatible Software for Monitoring & Controlling ALM and ALARM Series Audio Alarms

Wohler Audio Alarms

Wohler's Audio alarms offer audible and visual alarms for loss of audio, over-range (clipping) and phase/polarity reversal with rear panel relay contact closures for remote alarm condition detection.

Alarms are activated by audio levels falling outside of a user's predetermined range for a predetermined period of time. They allow for the setting of both level and time delay on a per-channel basis. Error conditions are identified on a per channel basis and are indicated by LED bargraphs or lights flashing and a Piezo buzzer. Individual errors may be reset, or they may all be reset collectively with a master reset button.

Free software for setting up and monitoring is provided with all models, and we are pleased to introduce our latest advanced software version for 2005.

Alarm System Setup

- Alarm Thresholds– Time and Level settings for Clip, Silence, Carrier Loss and Phase Error
- Alarm Modes – Latched/Live, Toggle Resets,
- Retrieve Alarm settings from a unit
- Easy corroboration of alarm conditions with alarm settings
- Save system setup to a file
- Easy readout of the alarm thresholds for each channel

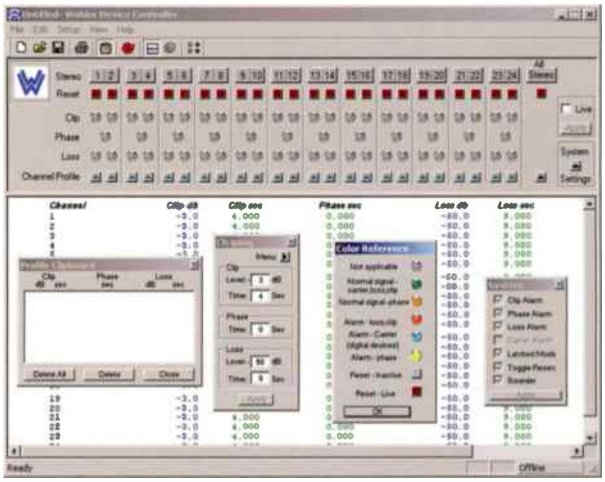
Logging

- Log alarm events to a file
- Events with timestamps and conditions violated

Alarm System Monitor

(must be connected to PC during use to monitor)

- Display alarm status in a GUI that looks like the front panel
- Logging alarm events to a file



- Signal Loss, Over-Range and Phase Alarms
- Custom Alarm Thresholds Programmable with Supplied Windows™ Compatible Software

Special Features

- Stereo or Mono channels per channel, rather than for all channels
- Ability to query the settings from an Alarm unit.
- Ability to reset channels, and later, to retrieve the alarm status (Toggle Reset).

NEW FEATURES

1 - New intuitive, easy to use graphic user interface

2 - Save and recall alarm profiles and system settings

3 - Retrieve alarm settings from a unit

4 - Live mode with on screen alarm indications and reset controls

5 - Toggle resets allows recall of alarms after reset

6 - Individual stereo mono channel groupings

7 - Copy, paste and gang channel profiles

8 - On screen and printable channel profile report

9 - Provides alarm event logging report on screen and saved to a text file

World Radio History

VAMP2-S8MDA

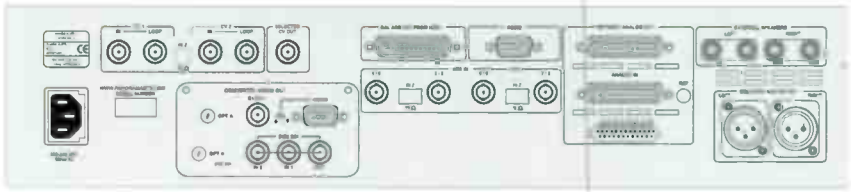
Multi-Channel, Multi-Format Audio/Video Monitor & Converter

We took one of Wohler's Most Advanced Products, and added Video Monitoring to bring you the VAMP2-S8MDA

PANORAMA dtv
THE VIDEO DIVISION OF WOHLER TECHNOLOGIES

The bad news is it won't make your coffee, but it should handle most other tasks. Just 2U of space gets you a HD-SDI, SD-SDI & composite video monitor and converter.

8 channels of simultaneous audio monitoring, metering and format conversion is handled from HD or SD-SDI, AES and Analog inputs.



- 5.8" 16:9 VPOD LCD Video Screen
- NTSC/PAL Auto-sensing
- 16:9 & 4:3 Aspect Ratio Selectable
- VPOD Mounted on Flexible Gooseneck is Retractable and Adjustable in Any Direction
- High Quality Self-Powered Speaker System with Dual Woofers
- Eight 26-Segment Tri-Color LED Bar Graphs displaying Simultaneous VU and PPM
- Front Panel Summing of any Combination of up to 8 Channels to the Left and/or Right Speakers

INPUTS

- *8 Analog Inputs*
- *4 pairs of AES/EBU Digital Inputs*
- *2 Auto-sensing HD-SDI/SD-SDI Inputs*
- *2 Auto-sensing NTSC/PAL Composite Video Inputs*

OUTPUTS

- *8 Analog Outputs (Metered)*
- *De-embedded AES/EBU Audio Outputs from any selected Audio Group from SDI is available in one of two options:*
  - *Option 1: (standard): 4 pairs of Unbalanced AES/EBU Outputs (HD-15)*
  - *Option 2: 4 pairs of Balanced AES/EBU Outputs (DB-25)*
- *1 Summed pair of Selected Analog Outputs*
- *1 Re-clocked Output of Selected HD-SDI/SD-SDI Input*
- *Left and Right External Speaker Outputs on 5-way Binding Posts*
- *2 Loop-Through Composite Video Outputs*
- *Converted SDI to Composite Video Output*

Coming Soon VAMP2-E8MDA

All the power of the new VAMP2-S8MDA above AND a Dolby E / AC-3 Decoder with discrete AES Outputs

Just as soon as rumor of the VAMP2-S8MDA started coming out, both our customers and our own engineering team started what if..... and at Wohler we listen, "what if" from both customers and our design team usually leads to an exceptional product, technology and solution for our customers which is completely unaddressed in the market.

Later in 2005 we will be bringing out the VAMP2-E8MDA, marrying the Dolby E technology in the AMP2-E8MDA (see inside front page) with the new VAMP2-S8MDA above. Further details will be posted on Wohler.com when available.

www.wohler.com sales@wohler.com Toll Free (US): 1-888-5-WOHLER

World Radio History

PANORAMA dtv
THE VIDEO DIVISION OF WOHLER TECHNOLOGIES

AVMFlex-SA

Combined Audio & Video Monitoring with SDI Using just 1U of valuable space!

- VPOD™ LCD Video Monitor mounted on a Flexible Gooseneck
- Offers the Best Viewing Angle in even the tightest spots
- 4:3 Models available with 4", 5.6" and 6.8" LCDs
- 16:9 Models available with 5.8 and 7" LCDs
- Powerful 98dB SPL at 2 feet (0.6m)
- Premium Quality Drivers & Power Amplifiers
- Extended Frequency Response and Low Distortion
- Audible Indication of Phase/Polarity Problems

INPUTS

-One SD-SDI Input with a reclocked output
-1 Analog Audio Stereo Pair input on balanced XLR
-1 CVBS video input

VIDEO OUTPUTS

-CVBS converted from from SDI input
-CVBS loop thru of CVBS input
-Reclocked SDI Output

AUDIO OUTPUTS

- 1 Analog pair out from selected SDI subgroup
- 1 Analog pair out from selected source

VALM53-16/M
VLM53-16/M

COMING SOON

Dual Format HD-SDI & SD-SDI Video Monitors with 16 Channel Audio Level Metering & Optional Audio Alarms

Dual Format HD-SDI & SD-SDI, complete confidence monitors for video and audio signal presence from HD-SDI or SD-SDI

VLM53-16M 2 RU, 16 high-resolution bargraph level meters, 4" video display

VALM53-16M 2 RU, 16 high-resolution bargraph level meters, 4" video display & user programmable audio alarms

GENERAL FEATURES

- 2 SDI inputs, autodetects HD-SDI or SD-SDI
- Front panel selection between 2 inputs
- All 16 channels of embedded audio are displayed on high resolution bar graph meters, with a midscale resolution of 1dB (when used with extended VU scale)
- Video confidence monitor, showing the video contents of the HD or SD-SDI signal. HD-SDI is scaled for display.
- Status Indicators:
  - HD-SDI & SD-SDI lock indicators
  - Error Detection Handling indicator

AUDIO ALARM FEATURES (VALM53-16M)

- Visual & Acoustic Alarm Indication of:
  - Phase Error Monitoring
  - Signal Loss Monitoring
  - Carrier Loss Monitoring
  - Over-Range Monitoring
- Programmable with Supplied Windows™ Software
- Per Channel Pair Contact Closures on a DB-25 Connector
- Full Duplex Baud RS-232 Control & Status

World Radio History

RM-2440/LM

COMING SOON

Monitor 4 Video Inputs & Meter 4 Stereo Audio Pairs Simultaneously in Just 2 Rack Spaces!

PANORAMA dtv
THE VIDEO DIVISION OF WOHLER TECHNOLOGIES

We've taken our ever popular RM-2440, and swapped the tally lights for some of Wohler's famous LED bargraph level meters! Above each LCD we've placed a pair of twenty-six tri-color LED bargraphs so you run quick confidence checks on 4 simultaneous sets of audio and video signals

VIDEO FEATURES

- 4 x 4" 4:3 LCD monitors
- 4 composite inputs
- 4 loop-through composite outputs
- Viewing angle: top=10°, bottom=30°, left/right=45°
- Contrast ratio: 150 (typ.)
- Brightness: 300 NITs (cd/m2)
- Resolution: 960 x 234 (dots x lines)

AUDIO FEATURES

- 4 balanced analog stereo pairs of audio inputs
- Inputs on DB25 connector
- 4 stereo headphone jacks
- 8 horizontal 26 segment audio level meters
- Industry leading wide dynamic range
- 1 midscale resolution when using extended VU Scale
- Selectable display modes: VU Only, VU/PPM or PPM Only
- Selectable PPM or VU Peak Hold: Off, 3-Second, or 10-Second
- Selectable PPM ballistics: IEC 268-10 Type I, IEC 268-10 Type II, DIN 45406 or single sample rise time
- Selectable bargraphs: extended VU, VU BBC, NORDIC, DIN and CUSTOM**

** Though the bargraph ballistics may be changed via dip switch, the front panel scales should be ordered from Wohler.

Preliminary Information - RM-2440/LM - Specifications are subject to change

RM-2440/SDI

COMING SOON

Quad 4" LCD Video Monitor in 2U with SDI & Composite Inputs as Standard

The customer is always right at Wohler Technologies! so although both our MON & RM series can be upgraded to SDI with modules and option cards, we've been asked for a unit which features SDI inputs as standard. without modules.

The RM-2440/SDI is a quad screen 2 rackspace unit with one composite input with loop-through, and one SD-SDI input with reclocked SDI out & a converted composite video output - per screen.

FEATURES

- 4 x 4" 4:3 LCD Monitors
- 4 SD-SDI Inputs
- 4 Composite Video Inputs
- 4 Reclocked SDI Outputs
- 4 Composite Outputs from SDI
- 4 Loop-through Composite Outputs
- Viewing angle: top=10°, bottom=30°, left/right=45°
- Contrast ratio: 150 (typ.)
- Brightness: 300 NITs (cd/m2)
- Resolution: 960 x 234 (dots x lines)
- Requires 2U of rack space

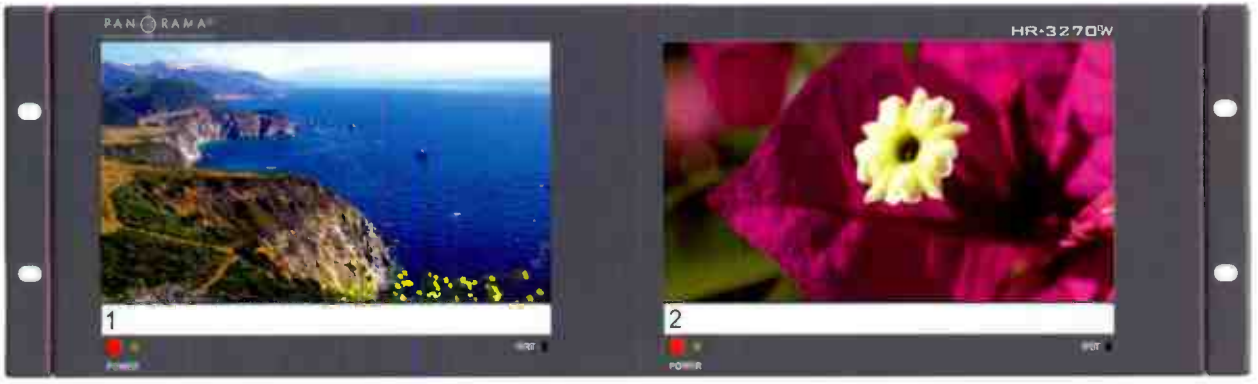
www.wohler.com sales@wohler.com Toll Free (US): 1-888-5-WOHLER

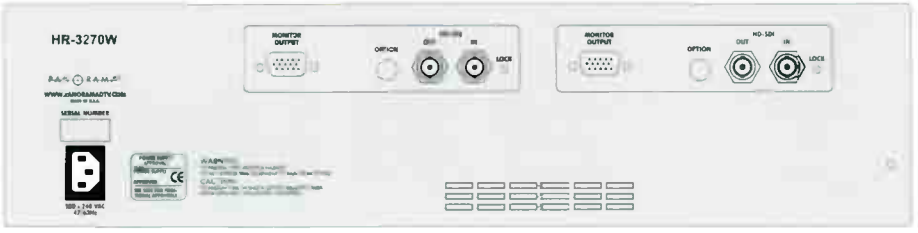
World Radio History

PANORAMA dtv
THE VIDEO DIVISION OF WOHLER TECHNOLOGIES

High Resolution HD-SDI LCD Video Monitors
As many Pixels as most HD plasmas, but in only 7"

With the HR series of High resolution LCD video monitors with HD-SDI inputs, you can benefit from the crystal clear picture and high resolution from the all digital signal features. Featuring as many pixels as you will find in most modern "HD" plasmas - but in 7" LCD. Ideal for video monitoring of video feeds for mobile trucks, news and transmission control rooms, duplication and post production applications.



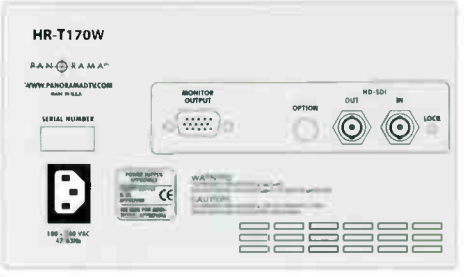


HR-3270W
The HR-3270W conveniently fits in the standard 2U Rack space

- 2 HD-SDI Inputs with reclocked HD-SDI Outputs
- 2 Outputs for your computer monitor in the original input resolution on DB15 connectors
- 16:9 Aspect Ratio
- 3U rackspace chassis

HR-T170W
The HR-T170W conveniently fits in the standard Tektronix half tub form factor alongside your scope or other HD monitoring equipment.

- 1 HD-SDI Input with reclocked HD-SDI Output
- Output for your computer monitor in the original input resolution on a DB15 connector
- 16:9 Aspect Ratio
- Fits in Standard Tektronix™ Half Tub



HR Series 7" LCD Specifications

Display Size (Diagonal)	*7.0 (17.8) Inch (cm)*
Display Type	*Transmissive*
Active Area (HxV)	*155.00 X 87.12 mm*
Number of Dots (HxV)	*854 X RGB X 480 dot*
Dot Pitch (HxV)	*0.0605 X 0.1815 mm*
Color Arrangement	*RGB Stripe*
Color Numbers	*262K*

World Radio History

PANORAMA dtv
THE VIDEO DIVISION OF WOHLER TECHNOLOGIES

Penpal-HD

The World's Smallest Professional HD-SDI Video & Embedded Audio Test Signal Generator.

Fits In Your Shirt Pocket, yet supports 18 different HD-SDI Formats.

Not all signals shown

Moving Patterns

- 32 video test patterns and pathological tests
- 18 HD standards
- 10-bit video test patterns
- Professional quality & stability
- 4 pairs of embedded AES audio
- Lightweight - 6.2 ounces
- Fits in your shirt pocket
- Battery operated or AC powered

Video Formats

1080i/60	1080p/30	1080p/24	1080sF/29.97	1080sF/23.98	720p/50
1080i/59.94	1080p/29.97	1080p/23.98	1080sF/25	720p/60	1035i/60
1080i/50	1080p/25	1080sF/30	1080sF/24	720p/59.94	1035i/59.94

Video Test Patterns & Pathological Tests

GROUP 1	SMPTE HD bars, 100% color bars, 75% color bars, 100% bars & red
GROUP 2	SDI checkfield matrix, Y pulse & bar, UV pulse & bar, ARC/APM 4:3 and 16:9
GROUP 3	5 Step Y staircase, 5 step UV staircase, Limited YUV ramp, Shallow Y ramp
GROUP 4	60% Y sweep (30MHz) with markers, 60% UV sweep (15MHz) with markers, Y multiburst - UV multiburst
GROUP 5	Pluge, Convergence, Tartan bars, 1 field in 8 white bar
GROUP 6	White, Black, Red, Yellow
GROUP 7	Green, Blue, Magenta, Cyan
GROUP 7	Moving Y Zone Plate -Stationary Y Zone Plate - Moving Y Vertical Bar- Moving Y Diagonal Bar

Audio Test Signals

A) Off - no embedded audio (low power)
B) Continuous 1kHz tone on stereo pair 1
C) Continuous 1 kHz tone on stereo pair 1 and 3, Continuous 444Hz tone on stereo pair 2 and 4
D) On 4 stereo pairs: continuous 1kHz on left channel & broken 1kHz tone on right channel

Video Specifications

Encoding	Bit Depth	Transport	Bit Rate	Output Impedance	Video Connector	Return Loss	Amplitude
SMPTE 296M SMPTE 274M	SMPTE 260M	10-bits SMPTE 299M	1.48Gb/s	75 ohms	BNC female	better than 15dB	800mV +/- 10%

Audio Specifications

Encoding	Precision	Sampling Freq	Transport	Tones	Signal Level	Channels
AES 3	20 bits	48 kHz locked to video	Audio embedded into video per SMPTE 299	1kHz (nominal) 444Hz (nominal)	-20dBFS	4 x stereo pairs (8 x channels)

Wohler Technologies is moving in May 2005 to a larger premises to serve our customers better
Please visit www.wohler.com for our new address, as well as telephone & fax updates

April 1st, 2005

Wohler

World Leader In-Rack Audio & Video Monitoring

713 Grandview Drive, South San Francisco, California, 94080, USA
Toll Free (US): 1-888-5- WOHLER(964537) Int: +1-650-589-5676 Fax: (650) 589-1355
www.wohler.com sales@wohler.com

World Radio History

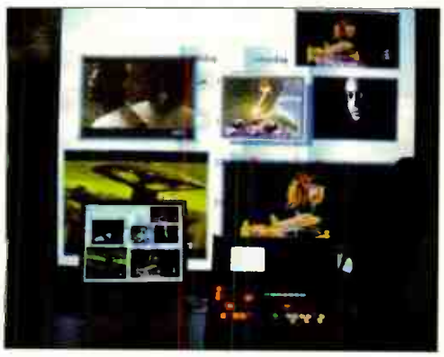
Barco Pushes Visual Display Envelope

Projection technology replacing blue screen presented

by Geoff Poister

Barco demonstrated significant advancements in HD and SD visual display systems at NAB2005. The new technology is applicable to both broadcast control rooms and extravagant public events.

Barco, best known for its signature projection systems, is positioning itself as a leader in flat-panel, customizable display systems for studio and events as well as advanced projection systems for digital cinema.



The Barco iPRESENT

The Barco iSTUDIO display system

The most eye-catching new product was the 0510 LED wall, which creates crisp image quality for indoor and outdoor shows and staging. Barco enhanced its Encore switcher to provide the ability to integrate numerous video sources in an infinite variety of visual configurations.

"Encore provides the most advanced windowing presentation system on the market," said Barco North America president, Dave Scott.

> "Encore provides the most advanced windowing presentation system on the market."
>
> —Dave Scott, Barco

iPRESENT

Scott pointed out that these systems were employed in Paul McCartney's Super Bowl half-time show and the Oscars, and will be used in the upcoming U2 tour.

The same versatile technology is applied to studio applications in the form of iPresent, a complete studio backdrop system that consists of specifically adapted rear-projection modules interfaced with the Encore show controller. The system eliminates the need for a blue screen by providing a multitude of video and graphical windows in perfectly matched color temperature.

"The iPresent allows broadcasters to present information to their viewers in a truly interactive environment and in real time instead of a virtual setting that requires a great deal of preparation," said Jim Durant, broadcast market manager broadcast for Barco Control Rooms.

For the control room, Barco introduced an expanded iStudio, which allows distribution of sources on multiple screens. It consists of a high-quality display with rear-screen projection, a graphic controller, and Web-based operating software. One projection module is capable of simultaneously displaying multiple analog and digital video, embedded audio and computer images. It can be customized to fit the specific needs and space limitations of any broadcast facility.

Barco is also taking a leadership position in the field of digital cinema, featuring this year its DP100 projection system. Barco now offers an entire line of cinema projection systems, as well as systems specifically engineered to satisfy the critical demands for viewing digital intermediates. ■ ©2005 NAB

Telestream Bridges Digital Islands

Launch allows desktop drag-and-drop for easy transfer

by Lauren Evoy Davis

The theme for Telestream's seventh NAB was "bridging digital islands." The Nevada City, Calif.-based company launched several new products for creating connections among various platforms and formats for broadcasters.

Telestream introduced FlipFactory HD at the show. The tool enables users to upconvert SD content and assets to HD. Features include automated batch processing and patent-pending MotionResolve designed to improve picture quality.

For acquisition, the company rolled out Flip4Mac MXF Import for Final Cut Pro HD, which can import DV or MPEG IMX and has file transfer rates of 10/100/1000baseT Ethernet connections.

> "You no longer have to care what format you are in."
>
> —Dan Castles, Telestream

Telestream debuted its Launch software-based newsgathering tool for Macs and PCs.

NEWSGATHERING

The new Flip4Mac supports the Sony XDCam camcorder, Sony PDW-1500 compact deck, Sony eVTR IMX MPEG video tape recorder and the Apple Final Cut Pro HD.

Telestream also rolled out Launch, a software-based newsgathering tool for Mac and PC. Launch/FlipFactory bundle, an end-to-end, all-digital newsgathering and ingest tool was also unveiled.

Using Launch, a new workflow automation tool, journalists can drag and drop media files to a desktop icon for flipping and sending in broadcast-quality material from field locations to the broadcast station over an Internet connection.

"Desktop editing has reached the masses," said Dan Castles, CEO and president of Telestream, indicating that its systems are getting easier for journalists and broadcasters to use.

David Heppe, senior vice president of sales and marketing, said he was pleased that on the NAB exhibit floor, 20 Telestream partners, including Microsoft, demonstrated FlipFactory in their booths.

MAP MAKING

A new feature of the Telestream MAP product is integration with Microsoft SharePoint, which is used for news and programming analysis as well as support for the new Microsoft Connected Services Framework for broadcast and film.

With the new products and updates to existing ones, users can play Windows Media files on a Mac.

"You no longer have to care what format you are in," Castles said.

Overall, the company's leaders were positive about the direction the company is taking.

"We're very excited to move to the content creation side of the business," Heppe said. ■ ©2005 NAB

World Radio History

Terayon BP 5100-The Ultimate In HD Channel Branding

Broadcasters face several challenges in migrating their content workflow and distribution from the analog to the digital domains. These include effective channel branding with composite graphics, integration with character generators, multicasting, and seamless switching between program streams. Overcoming these challenges with traditional methods is costly and detrimental to picture quality, since digital programs typically have to be decoded to baseband and re-encoded for such processing to occur.

Terayon's BP 5100 addresses these challenges head on, combining its market-proven stream processing technology with an advanced feature set that delivers broadcasters unprecedented flexibility to process and manage their HD and SD digital video programming. By operating on streams completely within the compressed digital domain, the BP 5100 enables channel branding of MPEG video with frame-accurate program splicing and advanced multicasting, while simultaneously retaining source picture quality and eliminating the need for racks full of costly equipment. Powered by Terayon's industry-leading rate shaping and statistical remultiplexing technologies, the BP 5100 sets a new standard for functionality and raises the bar for expectations in a single rackmount unit.

The Award-Winning BP 5100

Debuting to critical acclaim and three awards at last year's NAB, Terayon will demonstrate the BP 5100's powerful next-generation graphics overlay features in the company's booth in the South Hall, #11316. Representing a genuine breakthrough in real-time motion graphics capabilities, the BP 5100 enables both fixed position and sophisticated animation overlays completely within the compressed MPEG domain.

Case in Point: FOX and the Superbowl

Since 2004, FOX Broadcasting Company has been using Terayon's BP 5100 at its affiliates nationwide to brand all of their national and local HD streams and to dynamically switch between them. The BP 5100's advanced capabilities were most dramatically shown during FOX's HD Superbowl XXXIX broadcast which was viewed by tens of millions worldwide. The BP 5100's ability to brand compressed streams without the need to decode at each FOX affiliate station ensures the highest picture quality, enables greater bandwidth efficiency, and reduces overall operating costs.

Advertising Advantages

The BP 5100 also enables broadcasters to confront the challenge of commercial-skipping PVRs and the threat they pose to traditional advertising revenues. Using the BP 5100 to localize affiliate branding at distribution points closest to their viewers, broadcasters can begin deploying new advertising models, such as the use of graphically rich ads overlaid directly onto their programming.

Terayon – Accelerating the Digital Evolution

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Telestream: Enabling Tapeless, File-based Digital Media Workflows

At Telestream, we believe it shouldn't matter what formats, systems, or platforms you're working with. Accessing and exchanging video and audio files across the network should be easy and transparent to you, your colleagues, and your clients. That's why we offer a complete range of flexible, affordable, crossplatform solutions, that seamlessly integrate with your legacy systems, as well as emerging formats and technologies, to meet your exact workflow needs.

FlipFactory Expands File Transfer to HD, P2, Xsan

Powerful FlipFactory workflow automation solutions from Telestream automatically convert and transfer media files between edge servers and all the leading broadcast and edit systems. And, now we're adding much more support for high definition video. New FlipFactory HD provides SD-to-HD and HD-to-HD conversions, simplifying your migration to the new HD standard and enabling all-HD workflows.

We've expanded MXF support to include Panasonic P2 content, support for Apple's Xsan Environment, and the EVS server. Flexible, automated, file-based media exchange is why FlipFactory can be found at the core of virtually every digital media workflow.

Digital News: ENG via IP, Automated Ingest and Competitive Review

Telestream's Launch personal media delivery application combines with digital news acquisition tools to simplify remote submission of news clips. Running on a PC or Mac video editing system, Launch converts edited stories into transmission-efficient formats and delivers media via any IP network. When combined with FlipFactory at the station, media are automatically delivered in minutes from the field to your newsroom systems. FlipFactory also automates ingest from news delivery services like Pathfire and Reuters.

MAPreview provides the convenience of multifeed media capture, organization and viewing in one easy-to-use enterprise application. Now you can view your newscast alongside your competitors and the changing Nielsen ratings numbers, all at the same time.

Flip4Mac Digital Media Tools for the Mac

This year we've extended the power of Telestream to the universe of Apple Macintosh users. Our new Flip4Mac tools bridge platform gaps between Microsoft and Apple. Now Mac users can make, edit, and play Windows Media on their Macs from within their favorite host applications. And, our new Flip4Mac MXF Import Component ingests MXF media from Sony eVTR and XDCAM into Final Cut Pro HD, ready for editing. ■

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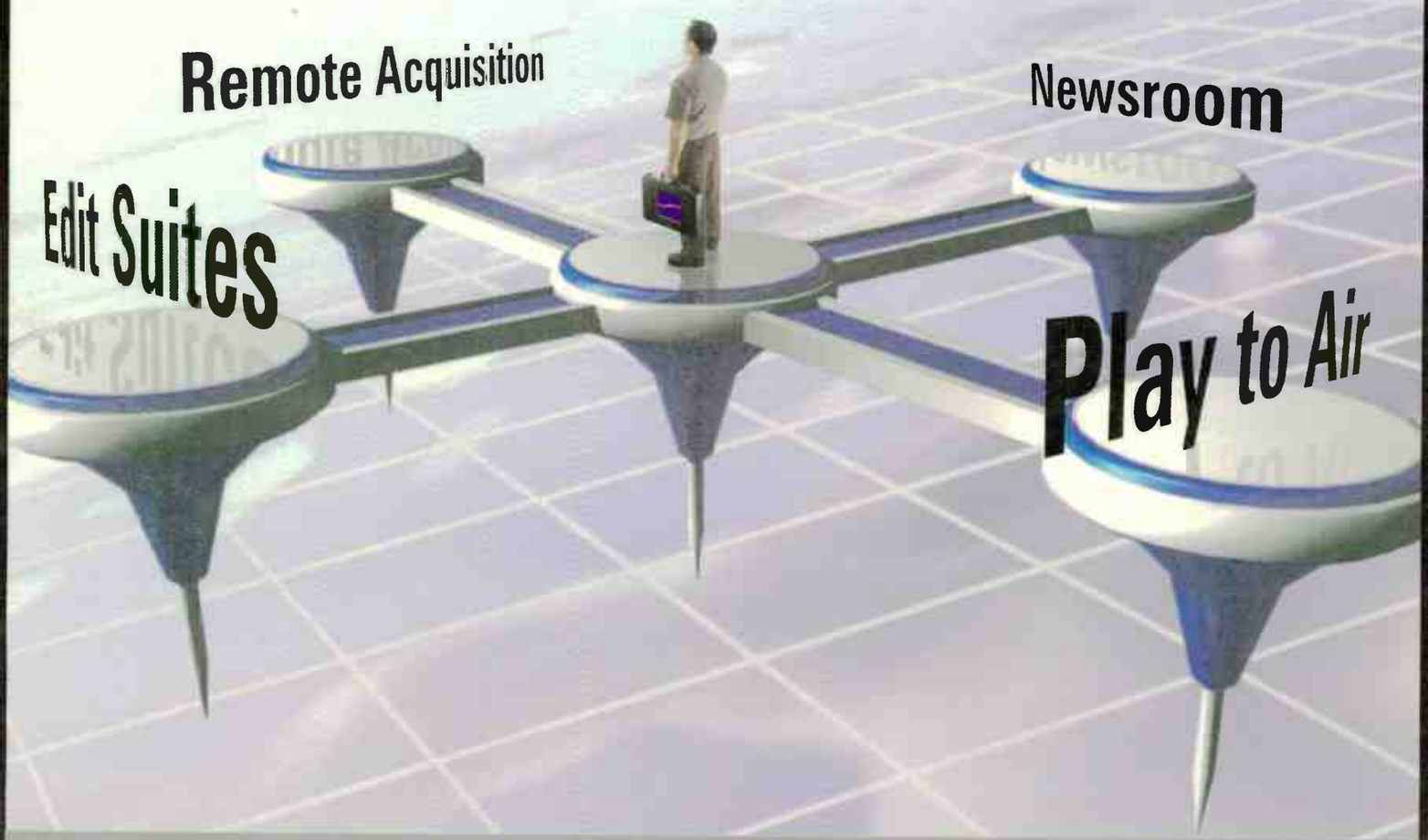

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World Radio History

Hitachi Z-DR1 Tapeless Recorder

At NAB2005, Hitachi Denshi America, Ltd.'s Broadcast & Professional Division will introduce and take orders for a truly affordable high-quality tapeless recorder for its professional camera models. The Z-DR1 recorder will dock to its popular Z-series cameras and enable them to be liberated from their studio pedestals and tripods giving Hitachi customers the freedom to realize ENG and field productions with their best cameras.

The new Z-DR1 is a collaborative effort between Hitachi Denshi America, nNovia Inc, Audavi Corp and Blueline Technologies which brings to market the most economically sensible method for digitally recording, editing and playback of SDTV video and audio.

The Z-DR1's digital recording compression is 25 Mbps. The file recording formats will be the popular AVI and MOV type now handled by a large majority of NLE suites on the market. The Hitachi Z-DR1 recorder has a removable "MediaPac" media (HDD) available in capacities ranging from 20 GB to 120 GB providing as much as six hours recording time at 25 Mbps. Prices range from $150/drive to $350 depending on capacity.

The Hitachi "MediaPac" houses rugged and reliable Hitachi Travelstar 2.5-inch hard disk drives that are presently the industry standard in laptop PCs and other familiar mobile multimedia devices. It is expected that the cost to storage density ratio of the Hitachi MediaPac will surpass that of all other media presently available for the next five years thereby providing its users with sensible and future-proof storage technology for digital video acquisition. The concept of using HDDs for video recording is not new, however, Hitachi is the first company that brings such technology "down-to-earth" pricewise thanks to its large investment in the acquisition of IBM's hard disk drive business. Hard disk drive development, manufacture and consumption currently outpaces and will continue to lead optical and solid state media. It is expected that informed and potential Z-DR1 customers will come to this same realization which is a spill-over of what is currently happening in the consumer market.

An optional MediaPac bay will be offered with the recorder, which allows installation into a Windows or Apple-based NLE. The HDD simply goes from the camera to the NLE making the video ingest process almost absent. The NLE's OS mounts the HDD and video editing can take place in the very same media it was used to acquire it. For those NLE users desiring other I/O interfaces, Hitachi makes available standalone MediaPac playback accessories as well as USB, FireWire and SCSI computer interface adapters.

In development with Blueline Technologies Inc, Hitachi will furthermore demonstrate solutions for larger networked news and production teams where the drives from their new Z-DR1 will be mounted in a NAS (Network Attached Storage) device, managed by a file server and made available to collaborative editors on the same network as clips they can drag and drop into NLE timelines directly from the file server.

Hitachi plans to promote the removable hard disk drive "MediaPac" media as the key benefit over the delicate optical disc and the expensive solid-state memory recording technology. Hitachi's NAB2005 exhibit will carry the overall theme of "Practical Workflow Solutions" to highlight the company's efforts in the development of this new Z-DR1 recorder with its complementary accessories that expand its use to many video applications. Short-term plans include the use of advanced video codecs and working partnerships with established NLE companies to quickly bring economical but high-quality HDTV camera-recorders to market that avoid the use of videotape and leverage digital video recording techniques having mass appeal.

The Hitachi Z-DR1 will tentatively list for $5,000.00 and delivery starts as early as June 2005. Camera-recorder system package deals will be available at the Hitachi booth. ■

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The perfect solution for your production and news gathering needs.

The Hitachi Z-DR1 hard drive recorder can record up to 8 hours of video on one removable MEDIAPAC cartridge. When you have finished shooting, simply remove the drive, insert it into your PC, and you're ready to edit. It's as simple as that.

The Z-DR1 records in popular MOV and AVI formats making the files compatible with most of today's non-linear editing packages. The MEDIAPAC can be used with a laptop simply by using the field adaptor cable with one of the several computer interfaces that are offered; Firewire, USB, SCSI, PCMCIA. Using any of these, your are ready to edit in the field. The MEDIAPACs are available in 40, 60, 80, and 100Gb storage capacities. With list prices ranging from $199 to $350, the MEDIAPAC offers an economical solution to the high cost of digital recording media. The Z-DR1 recorder is directly dockabe to all current Hitachi Professional cameras.

Today it is all about work flow, and nothing is as simple as the Z-DR1 recording system. You'll be amazed at how easy it is to operate.

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Morpheus – The Evolution Of Automation

With the advent of interactive and PVR services we are seeing the emergence of new challenges for the broadcaster. Five years ago there was the need to automate video and associated audio, plus sometimes adding subtitling and closed captioning. Now there is evermore ancillary data associated with a given broadcast that is beyond the capabilities of the traditional playout system.

With Morpheus Pro-Bel has taken automated playout back to the drawing board and designed a totally new architecture that supports playout of not only conventional material, but a wide range of multimedia and databased content. Morpheus introduces new concepts in user interfaces and a scalable object-orientated event structure.

Morpheus manages everything from simple server playout to complex channels where schedules are changing regularly and unpredictably.

At the core of Morpheus is the Media Ball concept. The Media Ball allows complex sequences of events to be packaged in a way that provides simple presentation to an operator and easy manipulation within a schedule. Media Ball also facilitates the introduction of enhanced content to operations where the business and traffic systems may not natively support the new types of content.

The event store – an object-oriented data model – allows unlimited levels of sub-events to support interactive content, multilingual broadcasts and dynamic on-air graphics. The event store design is 3,000 times faster than traditional methods of storing schedules such as relational databases. For resilience, the event store employs a replication technology that enables multiple instances of the event store to be run on multiple servers. In the event of server hardware failure there is an instantaneous failover to back-up devices with 100 percent guarantee of data integrity.

Morpheus brings new levels of intelligence to the sharing of playout devices and transmission resources between channels, using sophisticated management software. Devices can be allocated to playout streams manually or automatically according to user-defined parameters. Device usage is constantly monitored; ensuring scheduling conflicts are instantly reported and centrally managed across multiple channels.

Both Morpheus and Media Ball make extensive use of XML for the core data structures. Morpheus provides the resilient, scalable, and media agnostic platform, whilst Media Ball provides the manageable mechanism for scalable, hierarchical events.

Morpheus also has its own extensive suite of media management applications. Morpheus Media Management (M^3) is a powerful family of PC-based applications. The applications interface with broadcast devices, provide administrative functions, material ingest and desktop browsing. The M^3 family also includes components that allow the importing and exporting of metadata and material with disparate systems, ensuring that the user remains open to developing standards, while providing a flexible approach to changes in workflow. ■

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With Morpheus Pro-Bel has taken automated playout back to the drawing board and designed a totally

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From the simplest cable headend to the most complex multi-channel broadcast operation, Pro-Bel solutions for routing, master control, automation, media management, signal processing and workflow are to be found in daily use all over the world. Designed for tomorrow and practical for today, Pro-Bel transmission solutions open the door to the future .

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World Radio History

Calrec Introduces System Plus Platform

Source input management added to audio consoles for faster 5.1 processing

by Marguerite Clark

England-based professional audio equipment manufacturer Calrec Audio introduced its new System Plus Platform at NAB2005.

The platform is available as standard across the range of Calrec Alpha, Sigma and Zeta digital audio consoles.

The System Plus development offers broadcasters a number of specification upgrades to the Alpha-based architecture of the three ranges of consoles.

"System Plus brings a large number of features together, which immediately improves the product and provides platform for future enhancements," said Calrec Audio Managing Director Stephen Jagger.

The expanded features provided by the System Plus platform include enhanced monitoring options with full user configurability in addition to a fully adaptable and flexible color TFT metering system.

5.1 SOURCE INPUT

With System Plus, Calrec 5.1 source input handling can be introduced. This facility, developed to meet increasing demands for a simple and fast means of handling and processing 5.1 surround sources as single inputs, enables comprehensive adjustment of individual discrete elements.

"Any Calrec Audio digital console sold during the last six years can have features fitted so they can continue to upgrade and customers don't get left behind."

—Stephen Jagger, Calrec

The Calrec Alpha console

The Calrec Signal consoles

The System Plus elements are fitted as standard on new Calrec consoles, and are available as an upgrade for existing consoles.

"Any Calrec Audio digital console sold during the last six years can have features fitted so they can continue to upgrade and customers don't get left behind," Jagger said.

Networking of Alpha, Sigma and Zeta consoles is possible via the Calrec Hydra system. Hydra, which now offers dynamic system redundancy at all critical points in the network chain, makes it possible to share I/O resources and control data among digital mixing consoles. ■ ©2005 NAB

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World Radio History

Autocue Celebrates 50 Years in Business

Teleprompter company reaches beyond its early days with new visual data products

by Craig Johnston

Autocue celebrated its golden anniversary at NAB2005. CEO Peter Gould looked back over those 50 years at the company's press conference there.

"We invented the teleprompter," he said, then traced the company's moves forward to include newsroom and transmission automation.

The company had new product announcements on the teleprompter and automation sides.

For teleprompters, Autocue added a group of new functions, including one that allows handwritten notes to be seen on the video screen; and others for overlays such as countdowns, full-screen images and a wireless hand controller. It also showcased enhancements to its LT prompter system, dubbing it LT+.

The Autocue QScore Automation Monitor

"We developed these new products to provide our customers with improved choices and options for their newsroom workflow."
—Peter Gould, Autocue

Q PRODUCTS

Several new developments were added to the Autocue QSeries integrated software family.

"We developed these new products to provide our customers with improved choices and options for their newsroom workflow," Gould said.

The new products included QLog, which records low-resolution, frame-accurate MPEG output to a disk-based recorder system, along with the script material to allow looking for a video segment via a text search.

Also new—QTicker and QScore feature, which allow insertion of crawling stock prices or sports scores on the screen.

QVote, an integrated election system that automates and manages the collection, collation and dissemination of election data for broadcasters, had several new features.

Qaudio, a scripting and audio play-out system for the radio news environment, included full rundown management, extensive timing options, a fully customizable script editor, incoming wire feeds and archiving. ■ *©2005 NAB*

World Radio History

Tiffen Division Marks 30 Years at NAB2005

Steadicam line expanded with miniature stabilizer for smaller cameras

by Susan Ashworth

The Steadicam Division of Tiffen celebrated 30 years in business at NAB2005 by introducing a new lightweight camera stabilizer that weighs less than a can of soda and measures as little as 3.5-by-2-by-11 inches.

The Merlin stabilizer is designed for those videographers searching for an ultralightweight camera stabilization device designed to reduce fatigue and let operators take longer shots with longer focal lengths.

With a camera attached, such as the Sony Handycam HC-32, the Steadicam Merlin weights about 35 ounces, or around 40 percent less than other handheld systems without cameras attached.

The Merlin includes a new folding caliper hinge that extends and retracts to balance cameras ranging from 8 ounces up to 5 pounds.

The system also includes a universal dovetail plate that is designed to accept a range of cameras from ultracompact DVs to larger HDV models. The Steadicam includes five threaded stainless steel balance weights and two tapered end weights for cameras weighing less than 4 pounds.

The Merlin stabilizer

"Now, with even the smallest camcorders, anyone can achieve a truly professional look with Steadicam's unique brand of cinematic motion."

—Frank Rush, Steadicam

"Now, with even the smallest camcorders, anyone can achieve a truly professional look with Steadicam's unique brand of cinematic motion," said Frank Rush, Steadicam manager.

CLIPPER TAKES A RIDE

The company also introduced the new Steadicam Clipper 2, a camera stabilization system designed for standard composite, high-definition or film production. The Clipper 2 offers features such as a new arm called the G-50 arm, which has varying levels of elasticity via an adjustable knob called Ride.

The Clipper 2 also has a new operator vest designed for increased control and comfort. Constructed of weather-resistant black nylon, it features an integrated lower-back support pad, improved front waist support, a buckle index for quick latching or unlatching, and a vertically adjustable wide-stance chest plate.

The company also came to NAB2005 with Flyer, a camera stabilization system that incorporates an HD monitor, ergonomically designed vest and 24 V capabilities. ■ *©2005 NAB*

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Apple Lauds HD

H.264 compression demonstrated

by Jay Ankeney

"We really think 2005 is the year of HD, and at NAB2005, we are releasing a new platform for high-definition production and playback that is affordable to the HD community," Rob Schoeben, Apple vice president of Applications Marketing told a boisterous international crowd at the show.

"We are releasing a new platform for high-definition production and playback..."

—Rob Schoeben, Apple

MEET THE TIGER

To accompany the April 29 release of OS X Version 10.4, codenamed "Tiger," Apple is upgrading its software-based HD production capabilities on the PowerMac platform as part of the new Final Cut Studio suite of applications.

At the heart of all of them is the new QuickTime 7 and the H.264 codec, which allows HD material to be processed at SD data rates.

The four modules of Final Cut Studio are centered on Final Cut Pro 5, which now can edit HDV in its native format along with DV, SD, or all major HD formats including DVCPRO and fully uncompressed HD.

A new IMX coded directly edits material acquired with the Sony XDCAM, and a new multicam tool lets editors cut among up to 128 sources with real-time playback of up to 16 angles at a time.

Not forgetting audio, the new Soundtrack Pro features a graphic waveform editor and an integrated multitrack mixer. For graphics Motion 2 features accelerated 32-bit float rendering and a very cool MDI interface.

To output to disk, DVD Studio Pro 4 leverages H.264 to burn HD projects onto red laser DVDs, although the industry will have to wait until later this year for the release of compatible players.

Finally, for film and HD compositing, Apple's new Shake 4 features multiplane compositing, pixel-by-pixel analysis and, of course, tight integration with Final Cut Pro 5. ■ *©2005 NAB*

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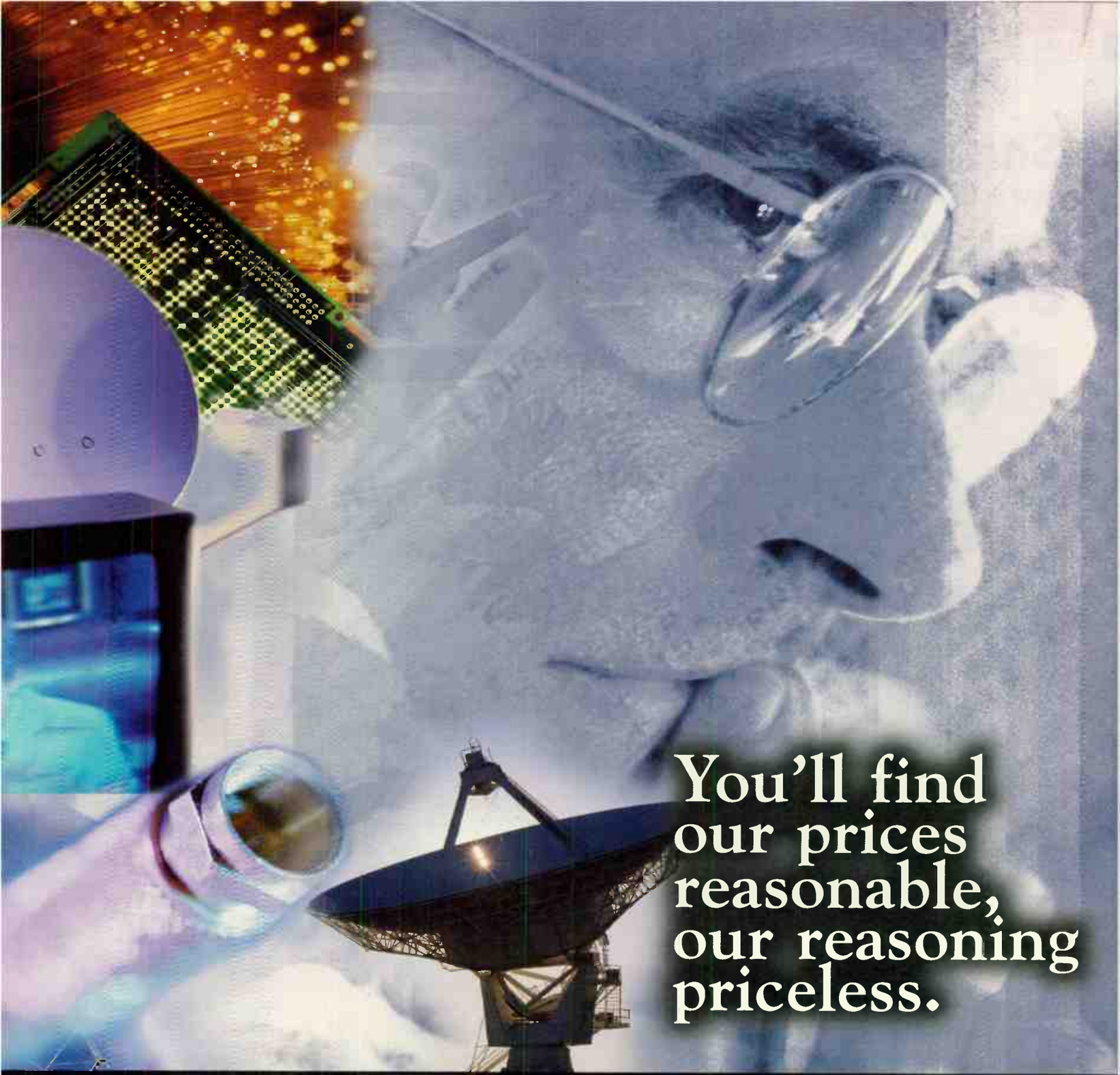

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Shotoku Launches High-End Robotics

New control panels feature capability that memorizes motions

by Mary C. Gruszka

Shotoku Broadcast Systems, known for its range of camera support equipment, designed and developed a new product range that was unveiled at NAB2005—high-end broadcast robotics.

To support that effort, the company founded Shotoku Ltd., based in Staines, England, which is headed up by Managing Director Mike Wolfe, formerly of Radamec.

"The new company will proceed with onward development of the robotics product range, manufacture these products, and handle the sales and distribution of both the manual and the robotics products in Europe, the Middle East, some of the Far East countries and some of the Americas," Wolfe said.

Sales in the United States will continue from the Shotoku, Inc. offices in Irvine, Calif.

Shotoku launched three robotic pan/tilt heads and two control panels at the show. The TG-17 pan/tilt head supports up to 33 pounds; the TG-18, up to 110 pounds; and the TG-19, up to 154 pounds. The latter two heads feature manual operations with adjustable fluid damping and VR capability.

The robotics control panels include the TR-8S and the TR-8T with touchscreen. The panels offer a number of features unique to Shotoku, the company said, including the "Learn Mode," which memorizes all the fluid motions a cameraperson makes while in local control, and "Swoop Mode," which produces a modified zoom replay trajectory.

Photo by Andy Washnik

Mike Wolfe, managing director of Shotoku Ltd., demonstrates the company's camera robotics control system.

PROTOCOL ADAPTER

Shotoku has made it possible for users of other robotic systems to interface with the Shotoku control system via a protocol adapter that converts from Ethernet and Shotoku protocol to serial data and Radamec protocols.

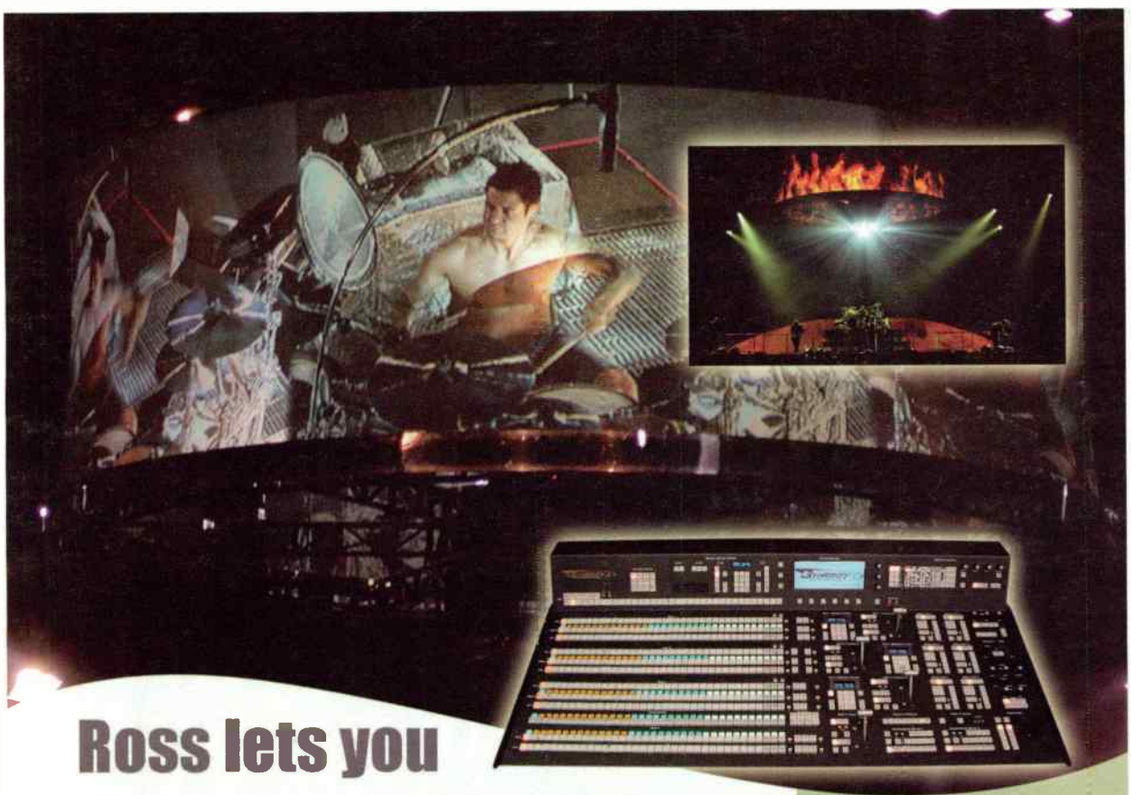
"There are a lot of Radamec customers out there, and they should be able to continue to run their systems," Wolfe said.

Shotoku has also been busy developing new manual camera support systems.

The new TP-80 four-stage pneumatic pedestal has a maximum load capacity of 275 pounds, but with an air pressure of about half that normally used. The TP-80 also has a newly designed built-in cable guard height-adjustment mechanism.

"These features are unique to Shotoku," said Shotoku President Naoki Ebimoto. "There is different technology inside."

Also introduced—the TK-59VR virtual reality jib that can be simply mounted on a tripod. ■ ©2005 NAB



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Arri Announces Industry Collaborations

New lighting products and master prime lenses unveiled

by Mary C. Gruszka

Arri arrived NAB2005 with a range of new product offerings and collaborations with key industry leaders, like Kodak.

"The Arriscan film scanner integrates Kodak Digital ICE technology for the first level of scratch correction," said Elfi Bernt, product manager for Digital Intermediate Systems.

The Arri X Ceramic 250

In addition to its regular RGB illumination unit, Arriscan adds infrared illumination to detect film defects. Using the infrared channel, Kodak Digital ICE technology automatically removes dust, scratches and blemishes from a scanned image. All noncorrectable defects are marked on a defect map for second level processing.

In another collaboration, Arri announced that its Arriflex D-20 film-style digital camera would now use the Grass Valley Venom FlashPak as an onboard data storage magazine. This frees the D-20 camera from a cable tether, allowing a more film-style way of working.

WORKING WITH AVID

Arri has also worked with Avid to produce a new template for FilmScribe, which is standard on Avid editing systems, to produce source material lists that can be imported directly into the Arriscan software. These lists minimize the amount of time spent identifying sources while reducing the errors that can occur with handwritten versions.

At NAB2005, Arri introduced several new camera products, including 12 master prime lenses for the Super 35 format, three master diopters, ultra prime 8R specialty rectilinear wide angle lenses, a lightweight zoom lens, ultra 16 lenses and a wide variety of film and video accessories.

"With the rectilinear lens, straight lines stay straight," said Marc Shipman-Mueller of technical marketing for cameras. "This lens seems to stretch the space and make it look bigger. This is a unique look that only we supply."

LIGHTING

The Arri Lighting Division showcased the Arri X Ceramic 250, which employs the new Ceramic ST 250 HR discharge lamp from Philips.

"This is the most efficient tungsten balanced light source that we've found," said John Gresch, vice president of the division. "This bulb operates for 4,000 hours and at 3,200 degrees Kelvin, and can be used for spotlight and floodlight types of lighting fixtures."

Accessories include an optional intensifier and egg crate diffuser.

The new fixtures have several advantages, Gresch said, including longer lamp life, cooler housing, less heat on the talent and extended lifetime for color filters. Cost savings can be achieved by lower maintenance, less frequent lamp replacement and reduced electrical and air conditioning load. ■ ©2005 NAB

Ascent Media Scores an ACE

Firm takes on big asset management projects

by Lauren Evoy Davis

After a recent name change from A.F. Associates to Ascent Media Systems and Technology Services, the company announced several new projects at NAB2005. Ascent was contracted by Sony Pictures Entertainment to digitize Sony's library of media assets for both film and TV.

The library will contain the studio's post-theatrical outputs, manage distribution of assets and oversee the ingestion of electronic assets, and create and archive the datatape for backup.

The Hewlett-Packard digital media platform will be at the center of the technology. The open platform enables the company to digitize, store, process and manage its media assets.

Ascent also launched a new asset management service called Hub, designed to help content owners produce, store and manage media.

PBS also tapped the company to deploy its ACE master control system. Ascent Media is proving the engineering designs and system integration to PBS member stations, including those in Iowa, Hawaii, New Hampshire, and WMHT in Schenectady, N.Y.

"We are extremely proud to be part of the implementation," said Tom Canavan, executive vice president, systems and technology services at Ascent Media Systems.

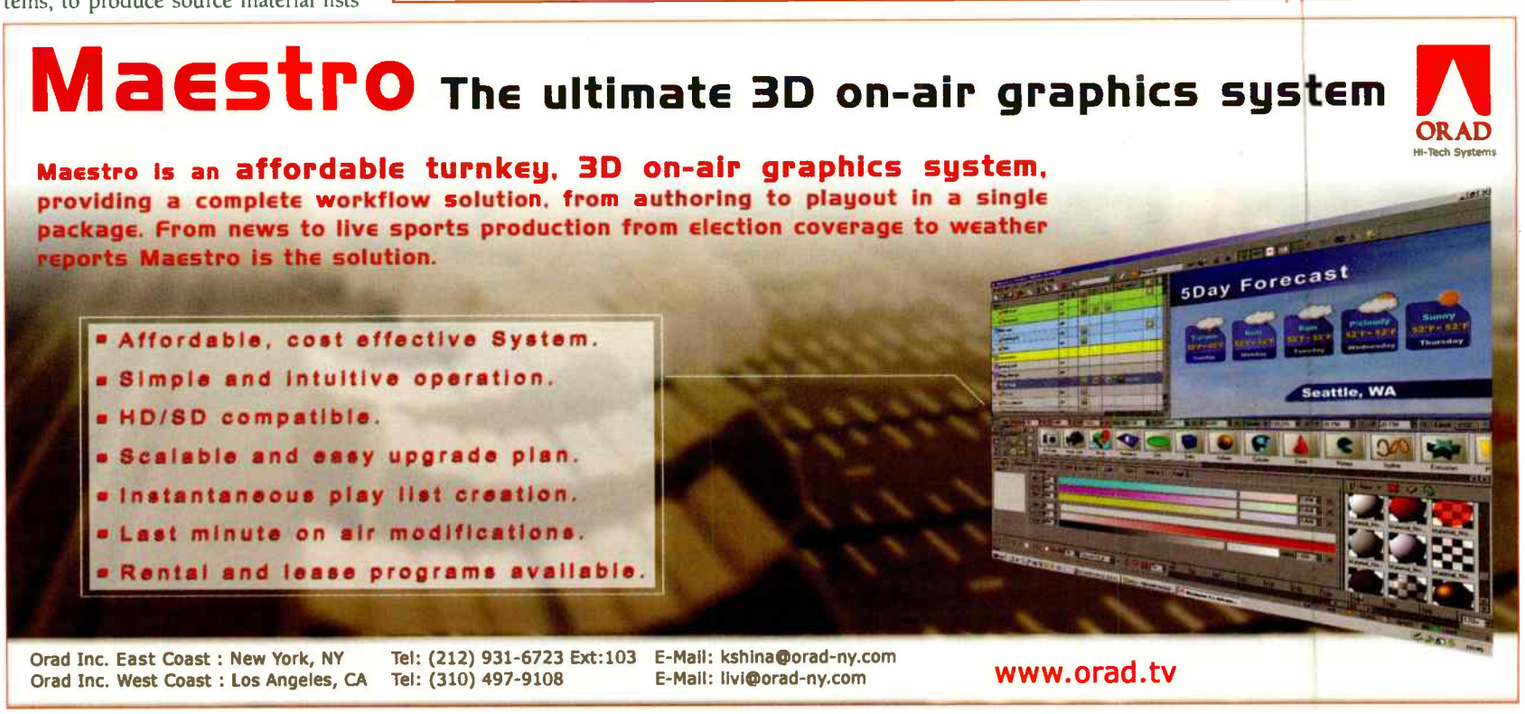
The ACE system enables stations to use advanced remote monitoring and troubleshooting tools at local and national levels.

Additionally, Ascent Media Network Services appointed a new chief technology officer. Jim McGrath, a technologist for the Santa Monica, Calif.-based company, will now take on the role.

In this new position, McGrath will be responsible for addressing design, implementation and management for new media technologies and developing global strategies for broadcast play-out, uplink and transport for delivery environments.

The future for Ascent Media may be in the IPTV arena. "This is a business model that is about to happen," said Ken Williams, CEO and president, Ascent Media Group.

Williams hopes as broadcasters move to file-based systems, that instead of upgrading legacy systems, they will consider what Ascent Media has done. ■ ©2005 NAB



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SONY

HD HIGHWAY →

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Sony takes the HD highway to NAB2005

The "HD Highway" runs throughout the Sony booth at NAB2005. We've planned exhibits and demonstrations that focus on current and future high definition (HD) products and technologies, and the roads customers can take to migrate from standard definition (SD) infrastructures to HD-based operations.

"HD Highway" is much more than just our theme for the show; it communicates Sony's commitment to our customers. No matter from where they are starting, no matter what budget they have, no matter what pace they want to go, Sony can provide an appropriate roadmap to the HD future. Most important, our commitment begins by helping customers maximize the SD investments they've made previously in Sony products and systems.

We've revamped existing Sony SD and HD lines with new products featuring 24P production capability, switchable 4:3 and 16:9 widescreen shooting and built-in HD upconversion. Whether you are a user of Sony's DVCAM™, XDCAM™, MPEG IMX®, Digital Betacam® or HDCAM® products, Sony can offer you a cost effective road to take toward an HD future without compromising your current SD or HD investments.

HDV AND XDCAM EQUIPMENT MAKES INROADS

Certainly there will be no shortage of HD products on display from Sony at NAB. These include Sony's recently introduced professional HDV™ products, including the HVR-Z1U camcorder and HVR-M10U VTR. These products began shipping to our resellers in February, and Sony expects to deliver more than 6,000 units of HDV products in the U.S. by the time everyone arrives at the show.

Also on display for the first time will be a technology demonstration of a high-definition version of Sony's XDCAM™ Professional Disc™ system. Since NAB2004, XDCAM professional optical disc technology has been embraced by television networks, production companies and rental houses for its workflow enhancements.

We'll also debut enhanced versions of our HDCAM VTRs, including the HDW-S280, the first to offer 24P capability. This upgrade creates a lower cost of entry into HDCAM 24P production comparable in cost to the most popular SD production formats.

Sony's video production switcher line has been designed to give our customers an array of options on the path to high definition, whether they want to begin with the standard-definition DVS-9000 that's upgradable to HD, or the multi-format MVS-8000A, that's SD/HD switchable.

Our new 1080/60P multi-format HD cameras promise to revolutionize coverage of sports and live entertainment events.

Building upon the success of our SRW-5000 HDCAM SR VTR, Sony is introducing the SRW-5500, which is switchable between Sony's HDCAM and HDCAM SR® record formats and can simultaneously provide HD and SD output, as well as Digital Betacam playback. We're also introducing a portable HDCAM SR deck, the SRW-1, which can be mounted on our CineAlta™ camera to bring mobility to electronic cinematography

BEYOND BROADCAST

Sony's HD Highway extends beyond traditional broadcast markets. Sony LUMA™ LCD monitors bring HD viewing capabilities into a diverse array of environments, including medical operating rooms. Sony H.264 products define a higher level of videoconferencing, and Sony MPEG 4 security cameras extend the ability to protect any company's premises. Digital signage networks also offer new levels of IP-based communications and control.

Sony is also introducing the HDC-X310 multi-purpose HD camera. This new camera adds an optical fiber interface that allows cable runs to be increased more than 10 times, to a maximum of 3,300 feet, for applications including high-definition point-of-view (POV) acquisition in stadiums, conference rooms, houses of worship or schools.

While HD is clearly on everyone's minds, Sony remains strongly committed to those who have significant SD investments and seek a cost-effective migration path to HD. We're introducing four new SD camcorders that can extend current infrastructures while providing new levels of image quality, functionality and ergonomics.

The DSR-400 and the DSR-450WS (widescreen) models expand Sony's line of DVCAM professional camcorders. Both are based on 2/3-inch Power HAD™ EX CCDs, and the DSR-450WS is a widescreen model that can capture images in 60i as well as 24PsF, 25PsF (PAL models) and 30PsF.

Continuing the 24P imaging capability across all SD formats, our new MSW-970 MPEG IMX camcorder and DVW-970 Digital Betacam camcorder complete the all-new, SD 24P lineup. They are based on a common platform, bringing 14-bit A/D and high-end image quality and production flexibility to their respective camcorder families.

These new features and enhancements to our widely used acquisition and storage solutions, including 24P options and i.LINK® connectivity, reaffirm our commitment to our current customers.

Our Professional Media Products division develops recording media hand-in-hand with our hardware developers, from DigitalMaster™, the recommended videotape for our new HDV format, to HDCAM SR tape, designed to capture the shorter wavelengths of the HDCAM SR format; and the XDCAM Professional Disc™ Media (PFD-23), the 23GB removable disc media that has enabled our tapeless recording format.

No other company in the industry supports its legacy systems the way Sony does. So drive with confidence on Sony's HD Highway, at any of the many speeds offered by Sony.

World Radio History

Setting the bar
for high-end acquisition

"Overall, 2004 was our best year in high-end acquisition, especially high-definition imaging," said Rob Willox, General Manager for Content Creation Systems, Sony Broadcast & Production Systems Division.

"We have seen substantial growth in HDCAM® camcorders as well as our HDC series studio cameras," he said. "With the introduction of the 60P-based HDC-1000 studio/OB camera, Sony leads the industry," he added.

HDC-1500

INCREASED SALES DRIVES LOWER COST

This rising acceptance of high-end, high-definition has meant increased sales of such product offerings from Sony, which in turn has allowed the company to offer more aggressive pricing on some key HD models. The HDW-F900, largely regarded as the de facto high-end HD camcorder, has a new price point in 2005.

"We have the ability to offer the camera more cost effectively, lowering the cost of entry," said Willox. "We have also added 24P capability to our cost-effective HDCAM VTRs, providing a total HD system well within reach of production companies."

Sony has also added HDCAM playback and record to the HDCAM SR™ series, allowing a producer to interchange tape formats.

"Our thinking is to give the producer the flexibility of shooting cost-effective HD using the HDCAM camcorders, then utilizing the HDCAM SR VTR first to feed an NLE and then to be the mastering format," he said. The HDCAM SR format allows up to 12 audio channels of recording, as well as 1080 or 720P recording, effectively creating an "any format" master. This is something that no one else can do with a single VTR/camcorder combination.

HD MOBILITY

HD studio camera sales are also increasing steadily, with a notable number going into the mobile sports production arena. "Television sports have dramatically accelerated the HD upgrades for many OB truck owners," said Willox. Broadcasters, cable and satellite companies have each found the need to deliver more and more games in high definition to stay competitive and keep viewers.

Servicing those high-definition needs, mobile truck companies have had to step to the plate with high-definition-capable vans.

"The challenge for the mobile business is that, in order to be profitable, it must do almost 200 events a year," said Willox. "To do that many events, the mobile unit has to be available to any and all customers," he said. With the networks demanding either 1080i or 720P, mobile truck companies have to be format agile to maximize their usage.

HDC-1000

ONE FOR ALL

"So this year we introduced a multi-format camera that will image in 1080i to our standard high quality level, and have now added 720P capability through the use of a 1080 60P imager," said Willox. "There is no compromise."

"What we did was develop a 1080/60 progressive that we can sample to get 720P, as well as offer 1080i/1080P natively," he said. "The feeling in the industry from people who have seen it is that we've raised the bar in terms of camera technology."

Early sales of the camera indicate it will become a fixture in high-definition coverage of next year's top event broadcasts. Those who watched CBS's Final Four 2005 coverage have already seen it in action.

Mobile truck companies are the early adopters, but the HDC-1000 Studio and the HDC-1500 portable have a much greater range of applications awaiting them. "The camera head will be able to put out 1080/60P as well as 24P," said Willox. "It could be used for motion analysis at 60P, and it can also provide 120 interlace," he said.

HOT NEWS ■ HOT NEWS ■ HOT NEWS ■ HOT NEWS ■ HOT NEWS ■ HOT NEWS ■ HOT NEWS

Two New High-End Camcorders with 24P Capability

Sony is introducing two new high end professional camcorders designed for high-quality standard definition acquisition in an array of applications. The MSW-970 records in the MPEG IMX® format and the DVW-970 records in the Digital Betacam® format. The new models add greater levels of image quality and production flexibility to their respective camcorder families, especially with the new capability of 24PsF, 25PsF (PAL versions) and 30PsF image capture. Both camcorders are based on 2/3-inch Power HAD™ CCD imaging sensors, and feature 14-bit A/D converters for superb picture quality. As with all Sony formats, the MPEG IMX and Digital Betacam lines of professional camcorders are complemented by professional recording media, co-engineered and designed to work together as a total system for optimum performance.

World Radio History

The new SRW-5500 VTR
goes from the format of choice to a choice of format

"We are very excited to introduce the SRW-5500 HDCAM VTR as the latest addition to our very successful HDCAM SR™ product line," said Rick Harding, Storage Systems Marketing Manager for Sony Broadcast & Production Systems Division. "With the ability to record both HDCAM® and HDCAM SR formats, this one machine is capable of supporting current market demand for HDCAM video product, but it also enables the user to meet the demands of what is quickly becoming an inevitable HDCAM SR future," Harding said.

This level of record power, coupled with the same optional features of the SRW-5000, allows conversion from HDCAM SR, HDCAM, or even Digital Betacam record formats to 720P, 525, 625, and 24P or 25P to 60i and 50i. This point of flexibility has never existed in a single HD recorder before, enabling the SRW-5500 to literally meet the mastering and distribution requirements for any market in the world.

When recording in HDCAM SR mode the SRW-5500 uses the MPEG4 Studio Profile compression scheme at 440 Mbps, which Harding notes is "as close to uncompressed as you can get and still be compressed. You literally cannot tell the difference between the HDCAM SR recording and the uncompressed source when viewing 4:2:2 or 4:4:4 recorded signals."

SRW-5500

REAL TIME/COST SAVINGS

Harding notes, "Like the SRW-5000, the SRW-5500 is capable of recording full bandwidth 10-bit Log RGB signals in real time. This is fast proving to be a key feature for post production facilities offering Digital Intermediate (DI) services."

Typically, data DI processes are also 10-bit Log, and because pixel counts recorded to film are comparable to HD resolutions, this capability is opening up new doors of efficiency and opportunity for the post production community.

NAB2005 will also see the release of the latest version of SRW software, which will enable the SRW VTR series to record 720P. This makes the SRW series Sony's first VTR to offer native 720P recording. "For those customers who prefer 720P as their deliverable, we'll be able to accommodate them with the best 720P record quality of any VTR," said Rob Willox, General Manager, Content Creation. "The SRW-5500 offers the type of flexibility that OB companies desire when they have to support multiple clients, with different production requirements. There's limited space in the vans, so having one deck that can record both 1080P/i and 720P along with 12 channels of uncompressed audio is very appealing."

OPTIMUM FOR ARCHIVING

The HDCAM SR format offers the highest bit rates to tape of any record format available, with the latest in state-of-the-art compression technology. This provides the highest archiving quality possible with today's technology. No other HD record format offers RGB recording in Log, linear or extended range, and YUV recording in SRW offers compression levels that are half that of the leading competition. It is little wonder that the industry is turning to the HDCAM SR format for its long-term archival needs. After all, the long-term marketability and profitability of any archive is dependent on the quality of the archive and the ease with which it can be applied to deliverables.

HDCAM SR videotape is also state-of-the-art technology, offering both project and archive maximum durability and shelf life at a cost that is competitive. The HDCAM SR video cassette also sports a 1K Tele-File® label that is readable and can be updated by the SRW recorders. "Because so many different formats are possible with this recording technology, it's important to be able to log what is on the tape for quick identification," said Harding. "When the tape is inserted into the deck, the machine will automatically read the Tele-File label and identify the format as well as the tape's record history."

The HDCAM SR format provides 12 channels of audio, which Willox described as "important for broadcasters and archivists alike." SRW's 12 channels of audio provide enough audio channels to fully conform archival elements for DVD mastering and dubbing, as well as broadcast masters that require more than eight channels of audio. "A broadcaster can allocate six channels for the 5.1 mix, another two for the stereo pair, another two for SAP, and still have room for other audio or non audio AES/EBU data," said Willox.

AVAILABLE METADATA SPACE

The SRW-5500 provides three HD lines per field of uncompressed VANC information capacity as well as the option of recording metadata information on any one of the 12 audio channels. This capability enables production, post production and broadcasting professionals to maintain ongoing records of relevant production and post production processes, and allows broadcasters more than adequate capacity to meet any future requirement for broadcast metadata as new DTV metadata commerce is realized.

"Filmmakers such as LucasFilm have already made good use of the HDCAM SR recorder's metadata space," said Willox. "They were able to record all camera settings, as well as the lens focal length, distance, and exposure stop, even camera pan, tilt and roll angles," he explained. "When they went into visual effects they could duplicate ▶

World Radio History

CRTs
still the best for critical evaluation

"There still is, unequivocally, a need for evaluation-grade Trinitron® CRT monitors," said Tom Mykietyn, General Manager, Display Systems at Sony Electronics' Broadcast and Production Systems Division. "Our customers are still demanding them, and Sony is committed to providing them into the foreseeable future."

"There is still no better way to exactly replicate an electronic image," Mykietyn added. "Professional LCD monitors certainly have their place, and they're growing in popularity because of form-factor, weight, power savings and how they reject ambient light. But for the most critical evaluation, there is not yet a display technology that can replace CRTs." He cited better grey scale reproduction, a standardized color gamma, perfect reproduction of the blacks, and the highest contrast range as the four areas where CRTs still beat the best LCD monitor technologies.

At NAB2005, Sony is introducing the BVM-A series, "A" for Advanced, which is the successor to the BVM-D DTV evaluation monitor series.

"We've redesigned the input cards so they're smaller, and people will get the advantage of one card that will auto detect both HD and SD serial data," said Robin Richards, Marketing Manager, Display Systems. "The current models have separate SD and HD decoders," Richards explained. "And, we've added some new features, like direct input of 4:4:4 RGB as well as Ethernet remote control with setup file management."

BVM-A24E1WU with BKM-15R

BVM-A14F5U

The primary application for the BVM-A monitors is high-end post production, which includes the increasing number of feature films finished electronically using new digital intermediate processes. Telecine and live production also find themselves in need of a monitor where they can critically evaluate multiple image formats. And as electronic cinematography takes hold, the BVM-A series will increasingly show up on the movie set.

Mykietyn noted that CRTs may not be the technology-of-choice for evaluation-grade monitors forever. But there is nothing in the near future that can outperform them. "Sony is not fully transitioning out of CRT monitors," said Richards. "We continue to support existing technology as well as explore evolving technologies in order to implement the best display solutions for the widest variety of professional monitoring needs."

continued from previous pg.

everything. Any angles that were required for that composite effect could be extracted from the original metadata," he said.

THE SRW-1/SRPC-1 FIELD RECORDER

Sony introduced the HDCAM SR portable field recorder, the SRW-1/SRPC-1 combination, earlier this year. This lightweight field recorder was designed specifically for the rigors of production, both on location and on the set. It, too, offers the same generous metadata capacity as the studio deck, and offers even higher bit-rate record options for RGB recording and "3D" recording. Also, 4:4:4 RGB images can be recorded at both 440 Mbps and 880 Mbps.

In 3D mode, the SRW-1/SRPC-1 is capable of recording two separate 4:2:2 signals to the same tape at 440 Mbps for each independent 4:2:2 signal (total data to tape is 880 Mbps).

SRW-1/SRPC-1

The SRW-1/SRPC-1 is breaking new ground and making it possible for filmmakers to expand their acquisition tool boxes to include full bandwidth 4:4:4 RGB, and opening the door for the first time to cost-effective, high-quality, 3D digital acquisition. It is clear that digital acquisition will continue to grow, and the SRW-1/SRPC-1 portable recording system will prove a key tool for this growing field for years to come.

NO BETTER VALUE

The introduction of the SRW-5000 in 2003, and the SRW-1/SRPC-1 in 2005 lifted the industry to levels of quality never before experienced in digital acquisition, post production and archiving. The introduction of the SRW-5500 perfectly complements this small but impressive family of recorders by offering the HDCAM recording features that Sony's customers have requested in an SRW studio deck. When it comes to HD recording, there is no better value than the HDCAM SR line and no more versatile recorder than the SRW-5500.

World Radio History

The XDCAM system:
In very good company

In just over a year since the first XDCAM™ gear was delivered, Sony has sold more than 6,000 of the optical disc-based camcorders and decks, making it the fastest growing tapeless acquisition system in the world!

Not only has XDCAM equipment shown rapid growth in the number of delivered units, but also in the breadth of its adoption throughout many segments of the television and production industry, including such high profile customers as CBS News and King World Productions. It is also rapidly becoming a favorite replacement system to traditional tape-based operations in corporations, educational facilities and government operations around the country.

Another indication of the overall acceptance and demand for XDCAM gear is the rush from major video equipment rental houses to stock the new tapeless gear in their inventories. And Sony's addition of 24P capability to the XDCAM system has opened new avenues to customers wanting to achieve that "film-like" look.

The XDCAM format has also found quick acceptance with broadcasters internationally, including the BBC and Sky in the U.K., WDR in Germany, CCTV in China, РОССИЯ-TV in Russia, Agencia EFE in Spain and TV Globo in South America, to name a few.

A glimpse at three XDCAM customers — a major broadcast network, a hit reality show and a public broadcaster — illustrates how moving to the XDCAM system benefits customers with a wide array of needs.

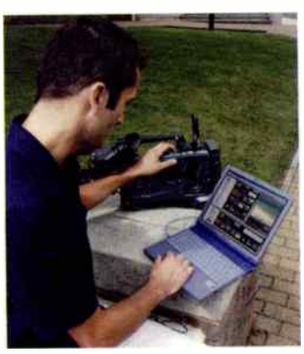
CBS ADOPTION

CBS Network found a number of reasons to commit to the XDCAM system for CBS News. CBS News Vice President of News Operations Frank Governale said the overall reason for the network's purchase of Sony XDCAM optical-disc based video acquisition technology was to stay cutting edge and competitive.

"At CBS News we have a rather large staff, and exploiting new technology is a way that we can remain competitive. The news business is a very competitive business — the first one with the story usually wins. We see XDCAM gear as something that can help advance our competitiveness in the news market on a worldwide basis," said Governale.

Reduction in day-to-day operating expense also played a major role in the network's decision. "The ability to have removable media that is relatively inexpensive is what has swayed CBS News' decision to pick XDCAM as an acquisition format," he said.

CBS News will use XDCAM gear for its worldwide newsgathering operation, for all hard news programming and for its prime time magazine shows.



"The XDCAM gear deck and Professional Disc™ media provide us, we feel, with the best solution for our worldwide news organization, where we need to ship media around relatively easily and in a relatively inexpensive way," said Governale.

THE PROXY VIDEO ADVANTAGE

With its widespread news operation in mind, one XDCAM feature CBS News found compelling was proxy video. As the XDCAM recording system lays down a high-resolution version of what video the camera sees, it simultaneously generates a low-resolution version of the same video, locked to the high resolution by timecode and carrying the same metadata. Moving this lightweight proxy video requires a much smaller data stream, allowing it to be moved more quickly and over a much lower bandwidth connection, like those found at the local Starbucks. The high speed transfer of proxy video, at up to 50 times real time, gives the news organization a number of options.

"The ability to feed in a low-res proxy in some parts of the world where we may not actually bring in a high-resolution version is something we cannot do today without additional compression and decompression units," Governale said, "so we favor the MPEG4 low-res proxy. The quality of the proxy is something that in some cases can be used for air."

Governale said the XDCAM nonlinear, removable disc media will also work nicely with CBS's Hard News Center, a totally disc-based editing engine room.

"An end-to-end workflow that CBS News is looking at is to be able to go out in the field and shoot on a random access disc, to edit in a low-res, proxy-type environment, to be able to feed back the high-res material into our production system, [and then] create programs for broadcast," he said.

MEDIA COST SAVINGS

Once material from the XDCAM system is edited and the story aired, the raw video and the story itself will be put onto tape for archiving and the disc returned to service in the field.

"We're looking to exploit the ability of multiple rewrites on the disc," said Governale. "Our understanding is that well over 1,000 rewrites are possible."

There's another XDCAM feature Governale believes will change the way the CBS News crews work in the field. "We do a fair amount of press conferences and shooting where the producer on-site isn't necessarily tethered with the cameraman, but also is there to take notes about what's being said at the press conference.

"So we're looking to use some of the conventional IT technology, 802.11 B or G, that the camera recorder can actually integrate with to be able to send that low-res proxy over the air," he said, "so that a producer sitting across the room who's logging can also log with video on his laptop, to know what the cameraperson's actually shooting."

Governale said he feels the CBS News move to the XDCAM system will be the harbinger of many changes in electronic news coverage. "Once you become an IT-based recording medium, technology advances very quickly," he said.

REALITY IN A THUMBNAIL

Entertainment programs have realized benefits from Sony's new tapeless format too, as reality show producers have quickly adopted the

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A wide range of applications, flexibility and fast ROI make XDCAM equipment a worldwide winner

XDCAM system as their equipment of choice to acquire their programs. And with hours and hours of recorded material to sift through to edit, any system to speed up this process would be well received.

Well over a dozen of the reality-genre programs used the XDCAM system for their productions this season. One of this year's hits, "Extreme Makeover: Home Edition," has found the XDCAM system's Thumbnail Scene feature a real time-saver on location.

Using the flip-out LCD monitor on the XDCAM camcorder, the crew can scroll through thumbnail size images to identify scenes they want to view.

"The thumbnail feature has been great because, in my interviews, I have to keep track of lighting and backgrounds," said "Extreme Makeover: Home Edition" Director of Photography Daryl Studebaker.

"I've set up a special disc for myself where I can just do a quick grab of each setup and then I can go back and compare them later. With the thumbnail capability, it is very easy and fast to search and find a certain scene," he said.

The XDCAM camcorder's Thumbnail Scene operation offers a major convenience compared to performing the same process with videotape, where a photographer must rewind the tape and look for a particular scene as scenes whiz by in reverse. Once the scene is found and viewed, the tape needs to be recued while, all through the process, the cameraman hopes he doesn't record over existing material on the tape or miss something that's happening on the set while reviewing shot footage.

On the XDCAM camcorder, you can just push a button and go right back to that scene instantly, and while you're viewing it, if something comes up and you need to start shooting again immediately, you simply push record: Instantly the disc is cued back to the last time you took a shot. Nothing is erased; you don't miss the shot.

24PsF CARD

Another XDCAM feature finding a home in reality show production is the optional 24PsF card, which enables the camcorder to switch instantly from 1080 60-frame interlace to 1080 24-frame progressive, providing the "film-like" look.

"We shoot the main portion of the show in a traditional 'documentary' style but, for the designer and family interviews, we want to have a different, 'film' look," said Studebaker.

The XDCAM system's ruggedness is also a feature that the crew of "Extreme Makeover: Home Edition" has put to the test. "We did an episode in Seattle where we were out in the rain and cold for long periods of time," said Studebaker. "And we shot in Bakersfield in heavy dust conditions," he added.

"We've put the system through a lot of trials, and we have yet to experience any kind of problem, whereas on tape we would have occasional issues. I also like the durability and portability of the disc format," said Studebaker.

PFD-23

THE XDCAM SYSTEM IS BUDGET-WISE

Reality show producers are risk takers, riding the leading edge of video. They also normally rent their production equipment, so they can quickly take advantage of the latest and greatest equipment available. But XDCAM gear has also found demand in sectors where equipment purchases are a long-term proposition.

Such is the case for Chris McElroy, Director of Production for Michigan Television. He found himself facing a much more restrictive budget and the need to keep the new equipment he was ordering in use for a dozen years or more.

Michigan Television's Engineering Department also wanted to cut down on maintenance costs. Moving to a tapeless format made sense.

The station chose the XDCAM system.

SEAMLESS INTEGRATION

Among the productions McElroy's crews do for station KFUM in Flint are interstitial pieces that run between the national PBS programs the station airs.

"We want our two-and-a-half to three minutes following a tremendously beautiful documentary by Ken Burns, let's say, to look as good as it can in comparison to that," said McElroy. With the XDCAM camcorder they achieve that quality look.

The optional 24PsF card was also crucial to matching the public network's look. "So many of the projects that are being shot nationally on PBS are shot on film, at 24 frames, or shot on HD at 24-progressive," he said.

And although his XDCAM camcorder can record in DVCAM™ format at 25 Mbps, opting to acquire in the MPEG-IMX® format at 50 Mbps keeps the images that much crisper.

Looking ahead, McElroy has confidence that material his crews are shooting with the XDCAM camcorder now will have shelf-life for the future. "When everything moves into the high-definition realm, everything that we're producing today we'll be able to continue to use," he said. That's also one of the reasons we really wanted to begin shooting in widescreen. Our productions are future-proofed."

Whether you're a network, a reality TV producer or a public broadcaster, Sony's XDCAM system provides you with the flexibility, features and benefits that save time, money, and help future-proof your legacy library.

Get in very good company and join the list of XDCAM users.

World Radio History

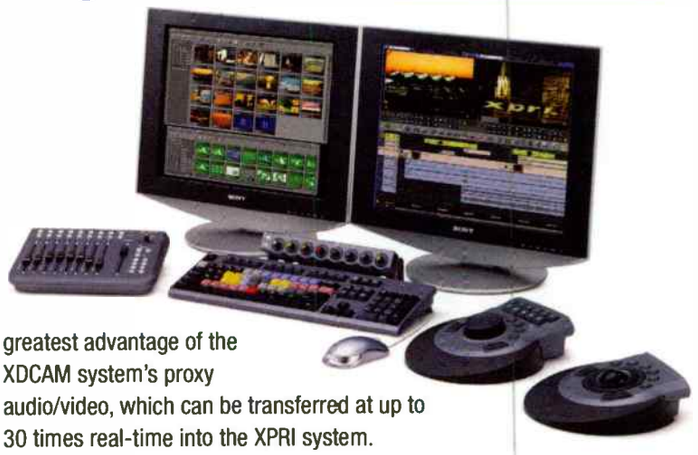
XPRI editing system provides unmatched networking capabilities

Sony's top-of-the-line XPRI® non-linear editing system has come to NAB2005 to showcase the way customers are leveraging the system's powerful capabilities into real-life workflow improvements.

"Television productions and post houses are discovering the XPRI system's power," said Theresa Alesso, General Manager for Optical and Network Products.

"XPRI's unique capabilities allow many of the time-consuming processes, like capturing and rendering, to happen at a high speed, and in the background," she said.

As XPRI customers — which range from FrameRunner and Harpo Productions to Sony Pictures TV and HBO Networks — put the edit system to work, different features match up with the individual customer's workflow, resulting in savings of both time and money.



REAL-TIME MIXING AT HBO

HBO Productions is using a new XPRI feature — Virtual TD — to produce its World Championship boxing productions.

According to Sony's Kaori Uno, Marketing Manager for the XPRI system, the Virtual TD feature automatically captures the crosspoints from a Sony switcher. This capability is especially used for tight-turnaround schedules and the need to work with HD content, real-time HD effects and graphics.

"The XPRI system drives the switcher from the XPRI timeline, with the switcher controlling the character generator and effects generator.

"The switcher outputs to a VTR or server," said Uno, "and the XPRI system allows editors to assign GPI signals on the timeline, so it's telling the switcher what to do. By programming the GPIs, without having anyone operate the switcher, the whole show can be cut on XPRI HD and played out to the record machine in real-time," said Uno.

XPRI SPINS THE WHEEL

Producers of "Wheel of Fortune" and "Jeopardy" also have incorporated the XPRI system into the production of their programs.

"Wheel of Fortune" is a complex show to assemble," said Phil Squyres, Senior Vice President of Technical Operations at Sony Pictures Television. "Wheel of Fortune" Director Mark Corwin recognized the XPRI system would give him the flexibility to handle the show's more challenging post production aspects and timeline adjustments.

The XPRI systems used on "Wheel of Fortune" are attached to XPRI Net, which is Sony's shared storage solution in a SAN configuration. XPRI Net offers multiple seats of unrestricted project, sequence, and clip media sharing in full online resolution for the HDCAM® and MPEG IMX® native formats as well as uncompressed HD and SD.

The XPRI Net solution is also in place at Harpo Productions, to produce "The Oprah Winfrey Show."

LEVERAGING XDCAM AND XPRI

Sony's XPRI integration with the revolutionary XDCAM™ Professional Disc™ system is the tightest possible, owing to the XPRI system's ability to handle the MPEG IMX footage in its native codec and to take the greatest advantage of the XDCAM system's proxy audio/video, which can be transferred at up to 30 times real-time into the XPRI system.

"We can browse proxy video through the editing console without adding additional software," said Uno. "We can log video, mark 'ins' and 'outs,' or even edit the proxy video and add complicated effects.

The XDCAM system also allows editing the proxy video in the camera itself, storing the EDL on the XDCAM Professional Disc media. "Then the XPRI system can do an auto conform, bringing in just the high-res video needed for the finished product," said Uno.

FRAMERUNNER FINISHES FEATURE-LENGTH DOCUMENTARY

The recently released documentary, "Enron: The Smartest Guys in the Room," was finished on the XPRI system, at New York-based post house FrameRunner.

Editor Don found the XPRI system's ability to handle high-resolution images especially helpful.

"There were several still images that had to be imported at a very high resolution, around 4000 x 3000," he said. "The XPRI system was able to bring them in, in real time, and size them down so that the entire image fit in the window. Once that was done, you cut them into your sequence, drop a real-time DME on it and you can blow it up literally 60 to 70 percent before you see any kind of degradation."

"All this image manipulation is in real time, so there's no rendering involved," Wyllie said. "With other systems, that's not the case."

EASE OF USE IS KEY

The XPRI system's seamless integration of the HDCAM format and the ability to edit material in the native HDCAM codec allowed Louisiana's Total Vision HD to strengthen its competitive position as producers in HD.

"The ease of operation with the long-form nonlinear editor and finishing tool comes, in part, from the customizable GUI and integrated external control panels that are programmable for individual preferences," said John Jackson, Total Vision Co-founder and Co-owner.

PLUG-IN READY

The XPRI system's interoperability with third-party technologies complements the system's design and expands applications.

Examples of technologies that are compatible with the XPRI system include Adobe After Effects, GenArts' Sapphire special effects Plug-ins and The Foundry's Tinder Box.

World Radio History

LUMA LCD monitors lead the pack in features, performance and cost savings

With more than 40 years as a leader in display technology, Sony is maintaining its position at the front of the pack in LCD technology with a slate of new features in its multi-format LUMA™ Professional Video LCD Monitors.

"What Trinitron® and WEGA® have been on the consumer side of display technology, the LUMA Engine brings to our lineup of LUMA LCD Monitors," said Tom Mykietyn, General Manager, Display Systems in Sony Electronics Broadcast and Production Systems Division. "Our LUMA series is the PVM monitor series using LCD technology."

Mykietyn pointed to three benefits that LUMA LCD Monitors possess over the rest of the field.

DIAGNOSTICS

The first is the extensive professional user features and input/output interface and options available on the LUMA Multiformat Engine Unit to help video technicians diagnose video signals.

"I think on an overall basis, considering aperature, chroma, phase, blue-only and all those features you expect from a professional monitor, many of the LCDs out there that call themselves professional do not have access to those kinds of controls across the board," said Mykietyn.

The second is Sony's patented Digital Signal Processing technology, which delivers the highest picture quality with all types of video material. Sony's exclusive X-Algorithm technology engine uses superior interpolation methods for conversion of interlaced to progressive images. This results in the elimination of jagged edges along diagonal lines, yielding dramatically improved picture performance with moving images.

A PERFECT MATCH

Third, and new for NAB2005, is Sony's proprietary color matching process, Chroma-Tru™. This feature not only matches LUMA screens monitor to monitor, but also can match a standard professional CRT's color performance identically.

"You can line up 10 LUMA monitors of the same model — they could be production number one, five or 35— set them up in a row, and they'll all match — right out of the box," said Mykietyn.

LMD-322WS

In addition to being able to color match all LUMA LCD monitors, this technology allows video technicians to match the color performance of reference CRT monitors like Sony's PVM L5 Series with SMPTE C phosphors. It can also instantly match Europe's EBU and other international monitor standards.

LONG LIST OF ADVANTAGES

Other LUMA LCD monitor advantages are its flicker-free and enhanced brightness displays, HD and SD interchangeable displays, a new liquid crystal technology that results in a maximum viewing angle, and a robust, anti-reflective-coated protection layer to minimize the risk of scratching or other damage.

Mykietyn enumerated several other features that make LUMA LCD monitors ideal for professional video monitoring applications.

One critical advantage is that the LUMA Series uses fixed position pixels to reproduce video images, eliminating the geometrical and linear distortion affecting CRT monitors. Their enhanced brightness allows them to be utilized in high light level environments.

LMD-232WS

Space is always a consideration, and LUMA screens have a decisive edge with their minimum depth and the ability to be flush-mounted on a wall.

LUMA™
Sony Professional LCD Monitor

LUMA monitors typically offer a significantly longer lifespan than conventional CRT designs, and more consistent imaging performance throughout their longer operational life, usually double that of a comparable CRT. Where CRTs gradually lose their performance over time, LUMA monitors continue to deliver their optimal picture throughout their life.

Because LUMA technology eliminates the need for convergence adjustments and is effectively immune to electromagnetic interference, the need for regular maintenance and special care requirements is greatly reduced. LUMA monitors also consume approximately half the electrical power of an equivalent CRT monitor, leading to significantly reduced energy bills and air conditioning requirements.

The fact that the size and weight of LUMA monitors are a small fraction of the same screen-sized CRT monitors makes LUMA LCD monitors much easier and less expensive to ship or store.

And given that the LUMA LCD screen and the Multiformat Engine Unit (MEU) are separate components, screen replacement and upgrading to HD is more cost effective. Changing screen size in a monitor wall or replacing an accidentally damaged screen doesn't mean buying a new MEU, it just means replacing the screen.

MODELS AND OPTIONS

LUMA Series LCD Monitors are available in 17-inch*, 23-inch* and 32-inch* models as HD/SD capable in the 16:9 format; 9-inch*, 15-inch* and 21-inch* models as HD/SD capable in the 4:3 format; and 14-inch* or 20-inch* as SD-only in the 4:3 format. Multi-monitor rackmount panels are also available in 2" x 7"* models as SD-only in the 16:9 format; and as 3" x 5.6"* and 4" x 4"* as SD-only in the 4:3 format.

Three LUMA Mutiformat Engine Unit decoder boards are available: the BKM-220D offers cost-effective decoding of 525 and 625 component serial video; the BKM-243HS offers both SD-SDI and HD-SDI decoding and can auto-detect an HD signal; and the BKM-255DV, which can be connected directly to a compatible DVCAM camera or other specified items using the IEEE1394 i.LINK® interface.

** All screen sizes are viewable area, measured diagonally.*

World Radio History

Sony production switchers:
Ready for HD when you are

A switcher is the cornerstone of live or live-to-tape video production, and this essential piece of equipment usually represents one of the major investments in a facility or mobile van.

The size of the investment doesn't stop with the sticker price on the switcher itself; there's also the matter of carving out real estate in the control room console, the cost of installation, and the time and effort that goes into training technical directors to use the switcher.

"Sony has addressed all of those investment issues in its production switcher family," said Peter Di Iorio, Senior Product Manager for Live Production Systems, Sony Broadcast and Production Systems Division.

"We've given customers the ability to order exactly and only what they need for today and the near future," he said, "with the ability to grow the switcher's capability and size, and ultimately its format, when the time comes."

DIFFERENT SWITCHER, SAME CONTROL PANEL

Although the digital switchers in the Sony family may have different model numbers and capabilities, the control panels remain constant so that the booth layout needn't change, and Technical Directors (TD) will feel comfortable working on the same panel layout.

For those with the need to switch to high-definition video today, the MVS-8000A can get you there. This multi-format switcher supports all formats in SD and HD, 720P, 1080i and 24P. The "A" version of the switcher was introduced at NAB2004.

"We were able to take the engine of the original MVS-8000 and make it smaller, lighter, faster, cheaper and less power-hungry, and then we added a bunch of additional capabilities built-in for the future," said Di Iorio.

A few of the new features he pointed to are multiple output paths, multiple transition generators, and a video cache of about 60 seconds of HD video.

MVS-8000

Because the MVS-8000A is a multi-format switcher, it can also be used to switch standard-definition productions until a customer is ready to produce in HD, and it allows a user to change back and forth between the two.

Facilities that have HD on the more distant horizon can opt for the same capabilities, minus HD, with Sony's DVS-9000 standard-definition switcher. "The 9000 looks the same and operates the same, and is our lowest-cost entry to that class of switcher," said Di Iorio.

The switcher control console for the DVS-9000 is identical to the MVS-8000A.

PRICE GUARANTEE

Sony offers those who purchase the standard-definition DVS-9000 a guaranteed price to upgrade to the multi-format MVS-8000 series switcher. "At some point, whenever your need arises, you can dust off that price and say we want to upgrade to HD," said Di Iorio.

He pointed out that those who received that option several years ago, guaranteeing the price for an MVS-8000 upgrade, got an even better deal when Sony instead substituted the updated MVS-8000A for the same price. "Buyers of the DVS-9000 today may get the MVS-8000B or better when they choose to exercise the upgrade option by speaking to their Sony representative."

Di Iorio said the decision of whether to invest in the standard-definition DVS-9000 first or go straight to the multi-format MVS-8000A depends on your timeline.

MFS-2000

"Our feeling is that if you're going to convert to HD in less than two years, you should go ahead and buy the multi-format switcher. If it's going to be more than two years, we think there are significant savings in buying the much less expensive standard-definition switcher, and exercising your option for the multi-definition switcher when you're ready," said Di Iorio.

He said when that upgrade to the MVS-8000A happens, all that is changed is the switcher mainframe in the rack. "When the TD first sits down at his same old familiar switcher control console, there's no learning curve, he's just switching HD," said Di Iorio.

CUSTOM CONFIGURATIONS

The two switchers can also be custom configured in size and capacity to match the customers' needs. At their maximum, the switchers can handle 80 inputs and 56 outputs, but can also be scaled down to as few as 17 input channels. When needs grow, more can be added.

Both switchers can also be configured with one to four mix/effects rows, in half M/E increments. Each M/E bank is full-featured and comes standard with four FineKey keyers with edge generators, four Chromakeyers and 14 dedicated wipe generators, including five transition generators, one common and four local.

"For digital video effects, we have a very powerful DME," said Di Iorio. The switchers can be configured with up to eight DMEs, wired, in groups of four, either internally or externally, or a combination of both.

"Some folks are still comfortable working externally, and we can accommodate them," he said. "But where the business is going, more and more, is to the common solution of bringing everything together in one place and not dealing with separate boxes," Di Iorio said.

SWITCHING IN AND OUT

Because the switchers are modular, it is easy to add or revise the switcher capacity and capability as needed. "Typically in the past, if you wanted to change the control panel, you either had to buy a new one, get a chainsaw or literally solder wires between boards," said Di Iorio.

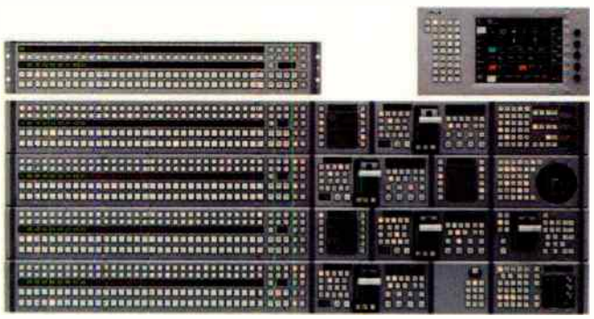
"With this design," he said, "you can literally take the modules and stick them on the side, up in front — and if you need something later, you can change them around again," he said.

World Radio History

Get the switcher you need today, confident that you can easily upgrade for tomorrow — with no learning curve!

Di Iorio pointed to the Bus Link feature as a way for mobile truck companies to save their customers money on a split-feed remote broadcast.

"Instead of having two full-blown trucks trying to do two shows," Di Iorio explained, "the OB van company can outfit a small truck with a minimum switcher, let's say a one-and-a-half M/E switcher with 17 inputs.



MVS-8000A

"Then, let's say all of a sudden something happens, and the small switcher needs one camera that's not on an input. With Bus Link, you have access to all of the sources from the mother truck, yet you're paying for just the small switcher," he said. And that small switcher has power and features similar to its larger brother on the main truck.

EDITING ON THE SWITCHER

Another feature Sony is introducing, a Plug-in Editor for the switchers, should find a welcome reception with sporting and other event broadcast producers faced with pre-game and post-game shows that need feature pieces and highlight packages cut.

"Instead of the switcher just sitting there in the truck before or after the game and your having to go somewhere else to digitize the video for a non-linear editor, you can just take all the elements of the truck and start editing right there," said Di Iorio.

The Plug-in Editor consists of BVS-8050 software and the editing keyboard similar to that of the familiar BVE-9100 editor. The editor takes advantage of the switcher's existing interface with VTRs and disk drives for machine control.

THE COST-CONSCIOUS MFS-2000

Many venues find they want to produce their live or live-to-tape programming in high definition, but can't justify the cost of a top-of-the-line switcher. With that dilemma in mind, Sony has introduced a cost effective alternative with a pedigreed background.

"The MFS-2000 Multi-format switcher is basically technology and applications derived from our higher-end MVS-8000A and DVS-9000 family of switchers," said Di Iorio.

Like its more expensive relatives, the MFS-2000 can be purchased as HD-ready, able to handle a variety of formats, or as an SD switcher that can be affordably and conveniently upgraded to HD via a software upgrade when that need arises.

The switcher can be purchased with a one mix/effects or 1.5 M/E control panel with 12 crosspoints, or a 1.5 M/E "wide" control panel with 20 crosspoints. It can be configured with two channels of powerful digital multi-effects with a variety of effects patterns and a powerful frame memory system.

The MFS-2000 features a color LCD touchscreen menu panel and has full "look ahead" preview capabilities, parallel tally and redundant power supplies.

The switcher is designed to allow customers such as corporate, educational or faith-based broadcasters, mobile news units, and sports and entertainment venues to migrate to a high-quality, full-featured SD or HD switcher at a cost effective price.

With the realization that high definition is in every video production facility's future, Sony has provided a path to HD for switcher customers, ranging from the first-tier producers of network sports and entertainment programming down to those with the most modest budgets.

HOT NEWS ■ HOT NEWS ■ HOT NEWS ■ HOT NEWS ■ HOT NEWS ■ HOT NEWS ■ HOT NEWS

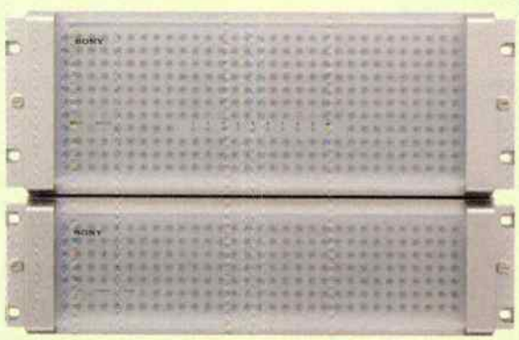
MediaVenue Series: The Powerhouse Server

A new benchmark in broadcast and production servers has been set with the Sony MediaVenue server, engineered from its core to operate in the network-centric world of modern audio/visual and IT systems.

MediaVenue

The MediaVenue server is designed to power new applications from conventional broadcast playout to advanced enterprise newsroom systems.

In its transmission application, the MediaVenue server will offer a true MXF file-based server that supports all current SD modes, and will allow easy migration to HD operations, including mixed SD/HD file management and HD in 1080i and 720P.



NSS-V2

For mission-critical applications, the MediaVenue server will feature new RAID controller technologies, offering extended failsafe redundancies and increased reliability.

For the MediaVenue server, Sony engineers have developed new and unique bandwidth management techniques designed to optimize the synchronous, real-time playout requirements with file-transfer operations that are increasingly driving today's new workflows.

The MediaVenue server will support industry standard automation protocols for a variety of broadcast and production applications.

World Radio History

HDV acquisition

provides multiple paths for multiple needs

The new HDV gear lets you shoot and store in HD or SD, and gives you a list of options to accomplish your project

HVR-Z1U

"Videographers today face tougher challenges," said Bob Ott, Vice President Marketing, Professional Audio/Video Products in the Broadcast and Production Systems Division.

"In terms of your investment, there is no way right now for most independent professionals to deliver the content produced in high definition to the viewer," he said. "Yet you know that during the life-cycle of your equipment, demand for HD content will be here," he said.

Ott said the answer lies in Sony's HDV™ camcorder, which provides a cost effective way to produce in SD today and be fully prepared to produce in HD tomorrow.

"HDV enables you to record in HD, edit in HD if you want to, and then deliver an SD signal," he said. "Or, it allows you to record in HDV 16:9, play back from the VTR or camcorder in SD 4:3 side-cropped, anamorphic or letterboxed as a 480i or 480P signal into a non-linear editor, and cut as standard definition."

AT YOUR SERVICE

Not only is the HDV gear ready to deliver standard definition content to meet the demands of today, but archive material can also be HD.

"Say you have a wedding videographer who uses HDV equipment today," said Ott. "When Sony's HD DVD for the home is available, the wedding photographer can supply the happy couple with an HD copy," he said. "The beautiful part of this process is you can have this HDV master on your shelf and, using the VTR, convert it to SD for current needs," he explained.

HVR-Z1U

Ott related another example: "For someone doing a corporate project, there's real value in having the archive video in HD," he said. "When they want to image magnify to a 110-inch screen or a 240-inch screen, they can get a high-definition version that looks terrific," said Ott. "The HD conversion capability of HDV to SD simply offers an array of options."

PROFESSIONAL NECESSITIES

Sony's line of professional HDV products combines the best of Sony's professional and consumer video worlds. "The camcorder is built on Sony's front-line technology, based on developments from the HDCAM® line," said Ott. "But it also has the size and many of the convenient features that first appeared in Sony's consumer and professional DVCAM line."

At the cutting-edge technology end of the spectrum, Sony's HVR-Z1U HDV camcorder features three 1/3-inch 1.12 megapixel HD CCDs, a high definition codec engine and 14-bit HD DXP processing circuitry. The camera includes audio inputs with independent manual control using balanced XLR connections with 48 V phantom power.

The HDV camcorder's optics are manufactured by Carl Zeiss, makers of the Vario-Sonnar® T lens, offering 12X optical zoom and optical image stabilization. The AF-Assist feature enables the videographer to override the lens' auto-focus mode simply by manually focusing the lens.

It also offers CineFrame™ 24-, 25- and 30-frame recording in both HD and SD, and has a two-mode CinemaTone Gamma™ setting to yield a "film-like" look and texture.

HVR-M10U

Other features critical to professional videography in the HVR-Z1U are the ability to preset SMPTE timecode in the camcorder, and choose between drop frame and non-drop frame as well as Rec Run and Run Free modes.

. . . AND NICETIES

The camcorder can be connected to an external device via the HD i.LINK® interface, which allows the camcorder to control compatible external devices such as HDV video recorders through its External Rec Control function.

It sports six customizable buttons, allowing the videographer to assign to them frequently used functions, such as the Hyper-Gain low light mode. Assigning such functions to each of the buttons saves the videographer from having to go into the camera's menu to engage them.

Optional accessories for the HVR-Z1U include a shoulder brace, wide-angle conversion adapter for the lens, rain jacket and filter kit. Audio accessories include the ECM-678 shotgun microphone and the UWP-C1 wireless microphone system.

PRO DECK COMPANION

A companion to the HDV camcorder is the HVR-M10U HDV Professional Deck. Small in size to take up little room in the workspace, it offers a variety of features and functions to help the videographer finish projects in HD as well as downconvert them to SD. The deck can play back HDV, DVCAM and DV tapes.

The versatile deck can downconvert to SD and offers HDV 720P playback. It also can be linked with HDCAM® equipment using an external ▶

World Radio History

Sony's new screen star:
the 4K digital cinema projector

The motion picture industry and theater owners have set a high standard to be met before replacing film projectors with digital cinema projectors.

"The studios and the theater owners agree that film has worked very well for 100+ years," said Tom Mykietyn, General Manager, Display Systems at Sony Electronics' Broadcast and Production Systems Division. "If they're going to move to a new technology, they probably only want to do it once for the next hundred years."

With that target squarely in mind, Sony introduced a pair of new 4K digital cinema projectors last summer. The technology is now hitting its mark: This summer, Landmark Theatres will begin its digital cinema rollout with the installation of six SXRD projectors, and plans to fully enable all of its 59 theaters (covering 22 markets) for digital projection. Landmark Theatres, a 2929 Entertainment company, is the nation's largest theater chain devoted exclusively to art and independent film. 2929 Entertainment is a vertically integrated media company co-owned by Todd Wagner and Mark Cuban.

Standards for digital projection have been set by Digital Cinema Initiatives, set up and funded by the seven major studios. Mykietyn said that Sony has taken its 4K projectors to the DCI laboratories several times, successfully meeting those standards.

SEEING IS BELIEVING

While the 4K-resolution specification — 4069 x 2160 pixels —has long been held as the goal of digital cinema projection, in the end it comes down to what the audience sees. To that end, Sony has brought expert test audiences, educated in the technology of electronic cinema, into theaters to see for themselves.

"We've invited people with 'golden eyes' to sit in various places in the theater," said Mykietyn, "and inevitably they're drawn right up to the screen. 'Let me see what the pixel pattern looks like,' they say, and it's almost imperceptible because there's so much resolution. The pixel structure disappears, even in the front row."

The key is Sony's Silicon X-tal Reflective Display (SXRD) technology, with pixels set at a pitch of 8.5 micrometers from the center of one to the next, an inter-pixel gap of 0.35 micrometers. This eliminates the cross-hatch pattern common to digital projectors and results in smooth moving images.

QUITE A CONTRAST

The SXRD technology used to develop the projectors yields high contrast ratios. "Our target specs will provide a remarkably high contrast ratio," said Mykietyn. "That means you have a wide range from white to black, nice, deep blacks and crisp whites, both key components to displaying a movie theater-quality picture."

Mykietyn outlined other viewing advantages of digital cinema projection over film. "There's not going to be any dust, any stray hairs in the gate, film jutter or scratches. The picture quality is going to be pristine, whether it's on opening night or the last day of the run," he said.

Replacing film projectors with electronic cinema projectors benefits both the motion picture and the theater industry. For the studios, electronic cinema display allows a much more cost-effective means of distributing the movies, eliminating the need for costly distribution of prints and shipping of multiple reels. For the theater owners, the technology opens up the possibilities for use of the theater and projector for alternate programming content such as concerts or business meetings.

WIDE SPECTRUM OF USE

Movie theaters are not the only application for Sony's SXRD projectors. Mykietyn said they will find a home in the simulation, command-and-control, higher education and sporting venue markets as well.

SRX-R110

Higher education and command-and-control users will make use of the multiple screen display features. The 4K resolution allows placing up to four full high-definition images adjacent to each other on one screen from the same projector. "It certainly could be appropriate for a sporting venue where you're displaying multiple games. One projector can do the job of four."

Sony will be offering two models of the 4K SXRD digital projectors: the 5,000 ANSI* lumen model SRX-R105 for screens approximately 25 feet in width, and the 10,000 ANSI lumen model SRX-R110 for screens approximately 45 feet in width, both with a viewable area measured diagonally.

**ANSI Lumens is a standard measuring method of the American National Standards Institute. Because there is no uniform method for measuring brightness, specifications will vary among manufacturers.*

continued from previous pg.

HDV to HD-SDI converter, which allows HDV material to be converted to the HDCAM format.

It features a built-in 3.5-inch (viewable area, measured diagonally) monitor on the panel and a variety of A/V signal outputs. Its onboard downconversion capability allows the HVR-M10U to interface with non-HD-capable non-linear editors.

To allow the videographer to realize the full advantage of the HDV format, Sony developed DigitalMaster™ tape. While the HDV camcorder and record decks can utilize standard 6mm tape, DigitalMaster tape provides a dual layer of magnetic material results in higher RF output, lower noise, and fewer errors and dropout.

"For the professional who buys HDV, their investment is protected," said Ott. "They can make money delivering SD content today without making a major revision to their existing editing equipment. Sony's HDV products enable professionals to go to HD at their own pace."

World Radio History

No videographer left behind

For those videographers working in standard definition who feel the HD mania is leaving them trailing behind, Sony's Andy Berger, National Marketing Manager, Pro Video Products in the Sony Broadcast and Production Systems division, had some words of comfort.

"We continue to support standard definition because we believe it's going to be with us for a long time," Berger said. "We have a new generation of SD camcorders we're showing at NAB, the DSR-400 and the DSR-450WS, and we will continue to support these highly reliable, rugged, well-built and proven products designed to give you a solid foundation for high definition."

DSR-450WS

EXPANDING THE LINE

The DSR-400 and the DSR-450WS (widescreen) models expand Sony's line of DVCAM™ professional camcorders. Both are based on 2/3-inch Power HAD® EX CCDs. The DSR-450WS is a 16:9 widescreen model that can capture images in 60i as well as 24PsF, 25PsF (PAL models) and 30PsF. The DSR-450WS also boasts a slow shutter feature for extreme low-light shooting.

"These camcorders are another example of Sony's state-of-the-art technology, like high performance CCDs, being adopted from our higher end front-line cameras to our more affordable models," said Berger. The CCDs deliver a significant improvement in imaging, including wider dynamic range, sensitivity and a -65 dB signal-to-noise ratio with a -140 dB of vertical smear, the same specs found in higher-end products."

Both new camcorders feature a rugged design for use in electronic news gathering, event videography, government/corporate production and electronic cinematography. They combine superb image quality with an extensive set of performance and ergonomic enhancements, including a large fold-out 2.5-inch (viewable area measured diagonally) color LCD monitor screen to allow the user to frame and assess shots, even in full sunlight.

Sony has also added an adjustable shoulder pad, precise battery life indicator and menu assignable switches on both the side and handle for quick access to frequently used functions. Camera setups also can be stored to removable Memory Stick® media for quick, convenient setup and recall of key parameters.

FLEXIBILITY IS KEY

Both camcorders are capable of recording in the DVCAM and DV formats, on small or large cassettes, and feature i.LINK® IEEE-1394 digital interface connectivity. Up to four-and-a-half hours of images can be recorded on a single full-size cassette in DV mode or three hours when recording in DVCAM mode.

"Our intention is to provide the widest range of DVCAM camcorder options," said Bob Ott, Vice President Marketing, Professional Audio/Video Products. "There is a large base of standard definition customers who need flexible, reliable, high-quality acquisition options for a variety of shooting applications. We continue to support these SD infrastructures with product developments," he said.

"In the VTR section, we have a whole line of updated decks," said Ott. "The main additions are high definition output capability through upconversion, and an integrated i.LINK IEEE-1394 digital interface."

ALL ON DECK

Existing Sony recorder/player decks DSR-1600, DSR-1800 and DSR-2000 models have been upgraded with the built-in connectivity and upconversion features, and have been relaunched as the DSR-1600A, DSR-1800A and DSR-2000A, with the same suggested list prices as the previous models. The company has indicated any DVCAM decks introduced in the future will also include the new features.

"Including i.LINK connectivity across our entire line of DSR decks responds to customers no longer looking at this interface as an option but as an absolute necessity," said Ott. "These newly enhanced studio players/recorders are even more powerful as production tools, while retaining the same excellent design, features and affordability of their predecessors," he added.

The DSR-2000A VTR has playback compatibility with consumer DV (both SP and LP recorded tapes), DVCPRO (25 Mbps) and DVCAM media. Pre-read editing capability allows for transitions with effects between two VTRs, as well as audio mixing/audio channel swapping with frame accuracy.

The DSR-2000A includes a wide digital slow play range from -x1 to x1, excellent jog audio, built-in TBC video control, an RS-422 interface, and a built-in timecode generator. Its analog interfaces include component, S-Video, composite video, and four balanced audio channels. Digital interfaces include SDI, SDTI (QSDI), i.LINK IEEE-1394 and AES/EBU interfaces. An optional new HD upconverter board, the DSBK-2020 with HD-SDI output, is also available.

The DSR-1800A recorder/player includes many of the innovative technologies featured in the DSR-2000A to optimize editing efficiency, including a built-in jog/search dial, jog audio and slow motion. It features multiple format playback capability to DV (SP only) and DVCPRO® 25 tapes, and automatically accommodates all 25 Mbps cassette sizes without a cassette adapter or menu resets necessary for playback.

INTEROPERABILITY

In addition to the new i.LINK digital interface, the DSR-1800A has a full range of both analog and digital interfaces to provide interoperability ▶

World Radio History

Sony makes upconversion to HD a snap with DVCAM pro camcorders and decks

DSR-1600A

DSR-2000A

with complying industry standards. Availability of the optional SDI interface provides a migration path to Digital Betacam, Betacam SX® and SDI-based systems. And an SDTI (QSDI) interface enables a virtually deterioration-free transfer with DV compression-based systems. The optional HD upconverter board, the DSBK-1820, allows for the transfer of DV assets to HD.

The DSR-1600A DVCAM player offers jog audio, slow motion and editing performance. It has a built-in jog/search dial and, like the DSR-1800A, has multi-format playback capability for DV (SP only) and DVCPRO 25 videotapes, and can accommodate all 25 Mbps cassette sizes without a cassette adapter or menu setting changes for playback of these formats.

Besides the newly added i.LINK digital interface, the DSR-1600A features a full range of analog and digital inputs and outputs that include SDI, SDTI and AES/EBU digital audio, composite, component and S-video analog video. It can also incorporate the optional HD DSBK-1820 upconverter board to provide inexpensive transfer to HD, including an HD-SDI output.

"For those in the SD world looking at the HD world and saying 'that's where I want to be sometime in the future,' Sony has created that path through the new upconversion features in our DVCAM decks," said Ott. "When you buy from us, you're not dead-ended, you're open-ended, your legacy is protected and your return on investment continues."

DSR-450WS

HOT NEWS ■ HOT NEWS ■ HOT NEWS ■

IPELA™

At NAB2005, Sony is showcasing its new IPELA™ Internet Protocol (IP)-based communications products ranging from IP monitoring and recording devices to IP-ready videoconferencing systems.

IPELA products offer plug-and-play functionality for personal and small office use and come with options for supporting software and system integration capabilities that can create enterprise-level systems for large corporate environments.

"Just as our innovations in high-definition technology have been major hallmarks in both the professional broadcast environment and in home entertainment products, our IPELA products will be part of what sets us apart in the IP communications space," said Mike McCausland, Vice President, Visual Communications.

Sony is committed to positioning its IPELA products and solutions at the forefront of the growing IP communications market by increased adherence to industry standards and collaboration with other industry leaders such as Glowpoint Inc. and Cisco Inc.

Enhanced HDCAM VTR with 24P Capability

Sony is enhancing its HDW-S280 half-rack HDCAM® VTR with the addition of 24P playback and recording capability. The upgrade now creates a lower cost of entry into HDCAM 24P production, in response to the growing demand for 24P-capable VTRs at every level of the production chain. The HDW-S280 is designed for ENG, OB van and field production applications, and features 1080/59.94i and 50i, switchable operation. The HDW-S280 is also available for use with the new RM-280 small editing remote controller, which enables assemble and linear editing operations.

New Multi-Purpose Compact HD Camera with Optical Fiber Interface

Sony is introducing the HDC-X310 multi-purpose HD camera that has an optical fiber interface that allows cable runs to be increased more than 10 times to a maximum of 3,300 feet. The new camera can be used in a range of applications including high-definition point-of-view (POV) acquisition in stadiums, conference rooms, houses of worship, or schools. The addition of the HFU-X310 interface unit significantly expands the possibilities of the camera. The camera uses three 1.5-megapixel, half-inch CCDs, and features a range of scanning modes with 2:3 pulldown. Weighing less than three pounds with no lens, it consumes less than 20 watts of power. An extensive line of accessories is available for the camera.

World Radio History

The Anycast Station:

A study in ingenuity and instant ROI

"The end-user's big question is: 'How do I make money with this?'" said Bob Ott, Vice President, Marketing of Professional Audio/Video Products in the Sony Electronics Broadcast and Production Systems Division.

Ott noted that while equipment manufacturers typically tout applications, features and benefits of their wares, "the end user has to translate that information into, 'How do I make a profit with this?'"

"We've done market research and developed more products that are cost effective, with the intention to have a return-on-investment that is faster than ever before," said Ott. The products Sony is introducing at NAB2005 reflect the buyer's bottom-line thinking.

Ott pointed to Sony's Anycast Station™ live content producer as an example. The product contains many of the components — switcher, monitoring, audio mixer and web streaming — necessary to produce a television show, live, on tape or through Web broadcasts. The system is ready to go out of the box.

BOTTOM-LINE AWARENESS

Ott put the cost of purchasing each of the individual components and jury-rigging them together at around $50,000. The Anycast Station product has a list price of $19,500.

Because of the Anycast Station product's capabilities at this price, Ott said the investment starts paying for itself just in setup time. "Now you have a package that, if you're a rental house, is an easy rental. If you're a cable system, this is perfect for your public access shows. If you're a religious organization, it's phenomenal for producing a program that can be broadcast via cable or distributed on tape or disc."

ANYCAST STATION

Ott pointed out that the Anycast Station product saves money every time it's used. "Say your company policy is to ask an event and staging company to take care of every corporate event, regardless of size. A fairly small, one-day event can easily cost you $5,000 with equipment rental, setup, operation and staffing," he said.

If it's an out-of-town event where people and equipment have to be moved and housed, the expenses keep mounting. "If it's a rush job — likely to be the norm of any company — sending a 19-inch rack full of equipment from to east to west coast and back by one-day freight will cost you $4,000," said Ott.

"If you do these small events twice per any given year, you would be better off by investing in an Anycast Station," Ott said. "From the third event onwards, you are adding thousands of dollars to your bottom line."

EASY TO USE

Ott pointed out that, in the past, video production equipment was technical in nature, baffling to operate for all but those with years of experience. "With the Anycast Station product, Sony has embedded the technology in the deep background and kept the interface as simple and intuitive as possible," he said.

To speed a new user's familiarity with the system, a visual tutorial CD, "Walking through Anycast Station," is available free of charge through the Sony Anycast Station product Web site as part of the product software upgrade tool kit: *http://bssc.sel.sony.com/BroadcastandBusiness/info/anycastnew.shtml*. Sony dealers are also available to do training.

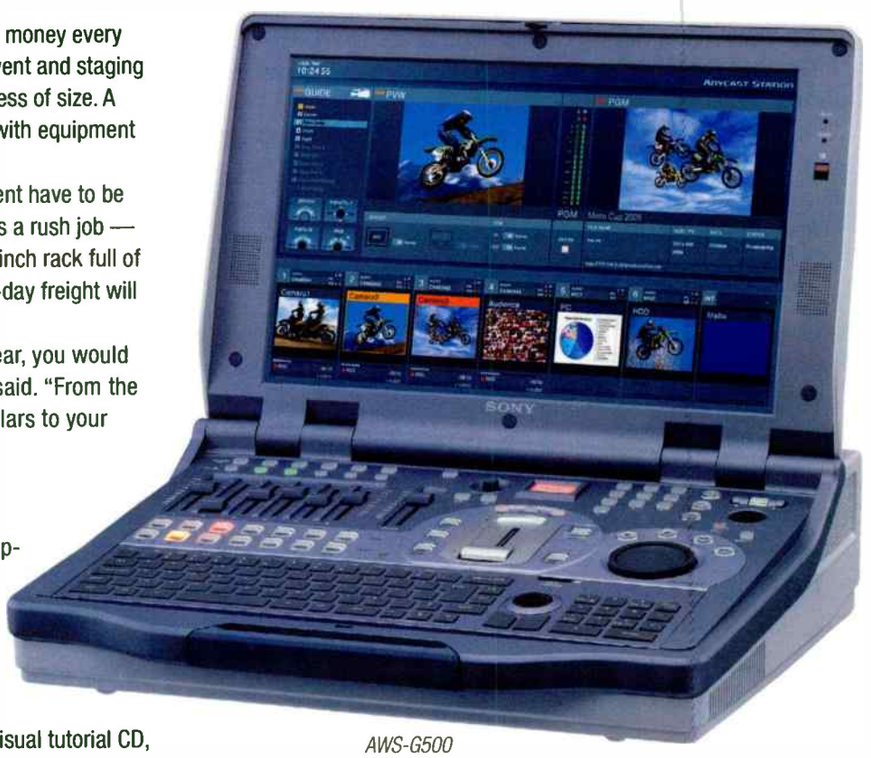
ARRAY OF APPLICATIONS

Ott listed an array of events he said are perfect candidates for the Anycast Station product: sales training programs and conferences, corporate meetings, product release press events, grand opening events and parties, recognition events, trade show exhibits, church productions, high school sporting events, investor relations meetings, keynote speeches and live Webcasting.

SEVEN EASY PIECES

The heart of the Anycast Station product is its control console, a combination of switcher, monitor wall, still store, audio mixer, camera pan/tilt/zoom control, provisions for intercom, and recording device control attaché case-sized and, at 15.5 lbs., easily carried, the console's small 17" x 14" footprint takes up no more desk space than most laptop computers. It opens and displays its screen like a laptop, with a connection panel at the rear.

Bob Ott summed up the Anycast Station product by answering the question, 'What's the return on investment immediately?' "Simplification," he said, "because you're not wiring a switcher, an audio mixer and all this stuff together with monitors, cameras and the rest. It's all in one package, ready to go to work."



AWS-G500

World Radio History

Microphones
get a boost from new features

"With microphones, what you don't hear is often as important as what you do hear," said Paul Foschino, Senior Marketing Manager, Professional Audio Group, in Sony's Broadcast and Production Systems division, referring to the newest addition to Sony's shotgun microphone line, the ECM-678 Electret Condenser Microphone.

"The ECM-678 gives the broadest range of frequency response, 40 to 20,000 cycles, along with great side noise rejection," he said. It also incorporates a low-cut filter switch that can be used to reduce unwanted pop and wind noise in the field. And it's tough enough to handle the elements encountered in day-to-day ENG or other field production.

Foschino noted that the ECM-678 is an excellent complement to the built-in stereo microphone that is incorporated in Sony's new HVR-Z1U HDV professional camcorder, giving the videographer the best of both worlds: ambient sound from the location, or specific sounds from the subject framed in the image.

BIG FEATURES, NOT BIG PRICE

You can hear wireless microphones any night of the week on high-end music, entertainment or sports programs, but what you don't hear is how they can be a cost-effective tool for everyday production for much smaller video fare.

"For DVCAM and the new HDV format productions, Sony's UWP series of wireless microphones are a great match," said Foschino.

The low cost UWP products achieve stable transmission and reception due to the incorporation of three core Sony wireless technologies developed for top-of-the-line wireless mic systems.

MB-806

Phase Locked Loop frequency synthesizing provides a stable carrier signal to avoid interference with other frequency channels and allows the selection of a preferred channel from multiple frequencies.

A Space Diversity Reception System minimizes reception interruptions by utilizing dual-antenna inputs and reception circuits that allow reception of the wireless signal over two different paths. The system automatically selects the stronger RF signal for output and switches over to the other channel should the first one begin to fail.

Tone Squelch Circuitry adds an inaudible 32 kHz pilot tone signal along with the audio picked up by the microphone itself. The receiver will only pass through audio it receives if it is also receiving the pilot tone, which virtually eliminates unwanted signals or noise from other unwanted signals in the air.

PACKAGE DEALS

"We've made it very easy for customers to buy the equipment they need, depending on the application," said Foschino. For example, the UWP-C1 comes with a body pack and portable receiver, and a lavalier microphone, all in one box. The suggested list price is $699. Wireless handheld mics are also available in the UWP line.

The receiver can mount on the accessory shoe on top of the camcorder, and can plug into the camera with either a three-pole mini-plug or an XLR connector.

"We've brought high performance to a very reasonable price point," said Foschino. "The UWP system is the first Sony Wireless system that we're able to offer for well under a thousand dollars per channel."

ECM-678

One new package Sony has introduced in the UWP line is the UWP-C3. "Along with the portable receiver, the UWP-C3 package gives you a 'plug-on' transmitter rather than a body pack or handheld transmitter. It's a plug-on transmitter with an XLR female connector so you can connect your favorite handheld mic to it and convert it to a wireless mic.

"We'll also carry the 'plug-on' transmitter separately," said Foschino. "We also are introducing an F Series Interview Mic at NAB that will work in conjunction with the plug-on transmitter," he said.

WIRELESS WONDER

"Sony makes a 1U high wireless mic powered receiver frame, the MB-806," said Foschino. "It allows you to drop in anywhere from one to six WRU-806 or URX-M1 UHF plug-in receiver modules."

"When using the WRU-806 receiver the unit will automatically set all of your channels, so that you can have six channels operating all at the same time," he said. "It's great for large venues where multiple channels are required. Up to four MB-806 racks can be stacked providing up to 22 channels, and because it's 1U, it takes up very little space in your rack," said Foschino.

"Outfitting the MB-806 frame with six of the lower-cost URX-M1 receiver modules can yield six channels of wireless mics for a suggested list price of around $5200," said Foschino. "For Sony's Anycast Station live content producer containing cameras, switcher, monitoring, audio mixer and VTR, the $5200 solution is perfect."

The MB-806 has balanced, XLR outputs and a built-in active antenna divider. The amplified AN-820 antennas give the wireless mics a range of as much as 1,000 feet.

TINY BUT POWERFUL

Another Sony mic product that has been upgraded into a new model is the tiny lavalier mic ECM-88B. "It's the smallest lavalier we make. It's a very high performance microphone that gives you the ability to reproduce the full frequency spectrum, from 20 to 20,000 cycles, but the real beauty is the size: It's very tiny."

A unique feature of the mic's capsule is a noise-canceling design that eliminates undesired sounds generated when the thin cable of the lav rubs against the talent's clothing.

"The new 'ECM-88B' version introduces a softer cable," said Foschino, "and we included the DC-78, which is the power supply and the XLR connector, which allows you to use the lavalier microphone as a hard-wired mic." Packaging that accessory with the mic gives the user the option of using it as a hard wired mic or attaching the unit directly to a wireless transmitter.

"And we've offered a variety of important accessories that people need," he said. "We have a variety of kits which include various windscreens, clips and other items to support the mic," Foschino said.

World Radio History

Sony professional recording media

preserves and protects from acquisition to archive

The image a videographer sees in the viewfinder is often the product of a great deal of costly planning—setting up the location, hiring talent, the crew and renting equipment. Sony has developed its professional recording media to the highest standards to protect the investment made in acquiring that image.

"This is your livelihood," said Jo Ann Vozeh, Director of Marketing, Professional Media Products. "You made an investment in terms of the technology of the camcorder; you spent a good deal of money specifically for it."

Sony develops its recorder technology hand-in-hand with its media for those recorders. "The engineers work closely together to develop the media and recorders simultaneously," she said. "In the end, this co-engineering allows us to optimize the performance of both."

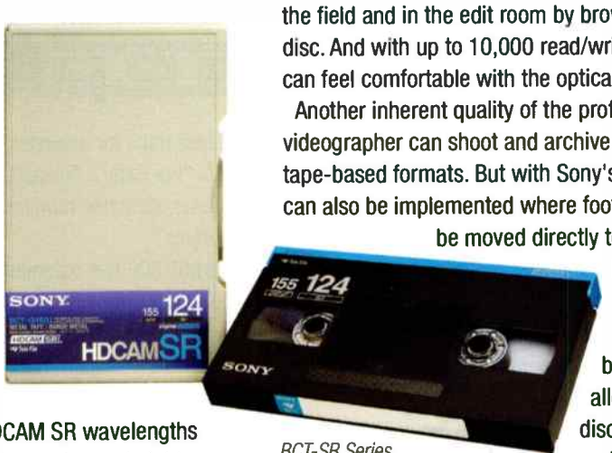
HDCAM SR TAPE CAPTURES FULL SIGNAL

Last NAB, Sony introduced what is termed "a new breed of tape," HDCAM SR™. It is the most advanced metal particle tape in Sony's half-inch broadcast family of tape products.

HDCAM SR tape was co-engineered with HDCAM SR recorders to meet the challenge of capturing the full potential of the format. With the new Sony and Panavision® coventure Genesis™ camera outputting at 4:4:4, only a tape like HDCAM SR BCT-SR series tape could handle the job.

"HDCAM SR has twice the output and 2.7 times the recording density of HDCAM® tape," said Joe Balsam, Senior Marketing Manager, Professional Media Products. "It also has more than three times the density of D5-HD tape."

Specifically, HDCAM SR tape uses particles 50 percent smaller than HDCAM® tape, with improved magnetic performance, allowing the capture of the shorter HDCAM SR wavelengths and enabling high-definition tape recording to reach new heights.



BCT-SR Series

These unparalleled specifications of HDCAM SR are especially important for realizing all of the capabilities of Sony's newly introduced SRW-1 VTR, which can record HDCAM SR signals as fast as 880 Mbps — twice the format's nominal rate of 440 Mbps. "It's greatly enhanced the ability for this format to do feature film production," said Balsam.

Production crews utilizing the highest capacity of the small shell cassettes designed for the SRW-1 will get a cassette running time of 50 minutes at 24PsF, another advantage over the few minutes available from a typical load of 35mm film.

Another feature of HDCAM SR tape cassettes is the Tele-File® label, which records shoot date, recording format, and other useful information onto the IC memory built into the cassette label. This allows a playback machine to easily find in- and out-points on the tape, and to play them back in the proper recording format.

XDCAM DISCS REVOLUTIONIZE VIDEO PRODUCTION

To describe the benefits of Sony's XDCAM™ optical disc technology, Craig Gunther, Marketing Manager, Professional Media Products, threw out a list of words: "Rewind, Fast-Forward, Capture, Convert and Wait — they're all words that production professionals can eliminate from their vocabulary when they move to XDCAM."

PFD-23

Engineers within the XDCAM's optical disc media group worked hand-in-hand with their hardware group counterparts in the development of this format. The resultant 23GB PFD-23 Professional Disc™ media is capable of recording up to 85 minutes of DVCAM® video or 45 minutes of MPEG IMX® video.

The optical XDCAM discs give a videographer numerous workflow advantages over videotape. Unlike tape-based formats, Sony's Professional Disc allows immediate random access to the information both in the field and in the edit room by browsing thumbnail images on the disc. And with up to 10,000 read/write cycles on an optical disc, you can feel comfortable with the optical disc's durability.

Another inherent quality of the professional optical disc is flexibility. A videographer can shoot and archive on the same disc, much like with tape-based formats. But with Sony's Pro Optical Disc, a new workflow can also be implemented where footage is shot, the desired clips can be moved directly to a nonlinear environment, and the Disc is free to be rewritten for the next project.

As Gunther points out, "The flexibility that Professional Disc provides allows the user to control costs. The disc can be used as write once or rewritable with no loss of image quality."

HIGH-DEF WITH LOW RISK

"Using consumer-grade tape for an HDV project could pose significant challenges for a videographer, which is why we recommend DigitalMaster™ tape for professional HDV applications," said Gunther. Any dropouts or shrinkage of the tape can result in a degraded image. "That calls for Sony's highest-grade 6mm videotape on the market, which is our DigitalMaster Series."

To reduce the videographer's risk, DigitalMaster videotape was designed with two active magnetic layers, which improves the Carrier-to-Noise Ratio by 2 db for 95 percent fewer errors and 60 percent less dropouts than consumer DV tape.

Another DigitalMaster tape advantage is durability: Sony has designed

continued on back cover

World Radio History

Your operations optimized
with total service solutions

The new proactive "sense and respond" monitoring service solutions from Sony identifies and addresses problems — often before they happen

Companies involved with all aspects of the television industry, from broadcast to post production, find themselves with infrastructures that are in a state of transition from analog, mechanical-based equipment to digital more IT network-based devices. And while digital equipment is the standard going forward, these customers find that they still need to retain legacy analog equipment to play archived taped materials. This mixed equipment environment increases the complexity of maintenance, resulting in a potentially significant negative cost impact to operating budgets, at a time when managers are being charged to hold the line on budgets or reduce expenses and headcount.

Sony Professional Services has kept abreast of these changes. With its combination of powerful new technologies and continuing excellence in service delivery, it is ready to assist customers with proactive service solutions. This is the message that Sony Professional Services is emphasizing at NAB2005.

"The traditional, 'break-fix' method isn't optimal for the changing nature of today's business," said Erwin Ishmael, Vice President of Professional Services. But because most modern broadcast devices are made "smarter" these days, he noted there is a better answer.

INTELLIGENT MONITORING

Professional Services

"More and more devices from Sony feature remote diagnostics capability and other types of intelligence," said Ishmael. "That increases the remote monitoring service capabilities that we have to offer to our customers."

Utilizing this built-in intelligence, Sony has developed "sense and respond" technology to proactively monitor broadcast equipment and improve the way maintenance service is delivered.

Legacy format analog equipment, without such built-in diagnostics, is not excluded from device monitoring. Sony Professional Services has created monitoring procedures to track the operation and condition of legacy format analog devices, allowing proactive and predictive maintenance.

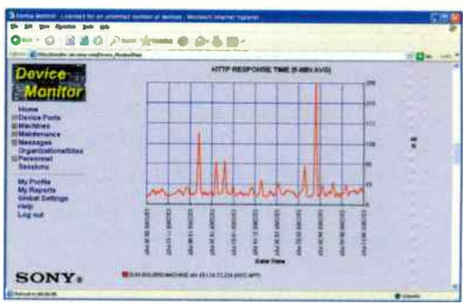
Ishmael used the venerable 3/4" tape machine as an example. "The U-matic VTR is a dumb device; it has no intelligence. However, included within the network of monitored devices, we create an asset record for it and put a barcode on the device.

"We have a wireless capability to allow customers who have diverse locations to scan the barcode, put in the head hours and other data, and relay that back to the sense and respond system, which brings it up to date," Ishmael said.

ANYTHING'S POSSIBLE

In essence, a service solution can include a vast array of remote monitoring software, connectivity products, installation service and equipment service contracts. Sony Professional Services can fashion a scalable solution to fit any facility's requirements, from the smallest operation up to and including a major network.

"It's customer-specific; one size does not fit all," said Tim Lindner, Manager of Professional Services Sales, Marketing and Administration for the division.



Lindner made it clear that device monitoring covers more than just Sony products; the company has gathered expertise in monitoring and maintaining select devices from major equipment manufacturers.

"It's about not having to buy 10 different applications for 10 different legacy systems with legacy manufacturer's protocols," he said. "It's about buying one.

"Infrastructurally and cost-wise, you're justifying the investment with quicker ROI than if you had to buy 10 different apps and try to kludge it together," he said.

Lindner said Sony Total Service Solutions can be implemented on a variety of levels. "There's a range starting with a standalone remote monitoring application that the customers themselves manage — where the alerts and messaging go to the customer's in-house maintenance engineers for remedial action — to the highest level of proactive, monitoring-based service management directly provided by Sony to the customer for mission critical environments.

"Not only are we monitoring 24/7 and looking at predictive analysis based on parsing a million pages of logs a day in aggregate," he said, "but we have the ability to see that a drive is failing and have our service guy knock on the door with a swap drive before the customer even knows he has a problem."

MULTI-VENDOR SUPPORT

Because Total Service Solutions support Sony and other manufacturer's products, Lindner said it simplifies life for the customer. "At the end of the day, the customer doesn't want to have 10 different places to call. It's an opportunity for us to be able to take the first call, diagnose the problem and call in the right people to resolve the issue," he said.

By outsourcing maintenance directly to Sony, a total service solution built upon a SupportNET℠ contract also gives the customer predictability as to what their annual maintenance bill will be. Those expenses go beyond the cost of manpower.

"One of the significant factors of doing maintenance in-house is the cost of the parts," said Lindner. As new devices require more sophisticated diagnostic tools and techniques, the lack of trained maintenance staff can exacerbate expenses for parts.

"If the knowledge isn't there, how many parts is a maintenance

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World Radio History

Professional Services

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engineer going to go through to figure out he's finally fixed the problem?"

BEYOND BROADCAST

In addition, Total Service Solutions can be used to monitor such equipment as PCs, printers and copiers, as well as tie in environmental sensors throughout a facility. "More and more things can be brought into a customer's monitoring environment. After all, a studio or an edit bay is also a facility, and knowledge of all the operating conditions that can affect device performance should be included from the monitoring overview," Lindner said.

To the customer, Total Services Solutions brings comfort: Comfort knowing his mission critical equipment is being monitored 24 hours a day; comfort knowing that problems with these devices are often addressed before there is a failure; and comfort knowing what costs will be incurred.

SERVICES PLUS

Sony Professional Services also maintains the Broadcast and Business Solutions Company ServicesPLUS℠ Internet site, a powerful research tool that allows Sony professional products and systems customers to locate and order hardware parts and software updates to help enable proper equipment operation.

The site lets users access 700,000 Sony product parts, with real-time pricing and availability information. Through accessing the site, maintenance and repair parts are available for broadcast, pro video, pro audio, medical, printer, security, multimedia, duplication, video conferencing, and other professional products.

The PartsPLUS℠ feature on the site provides access to hundreds of exploded view diagrams for Sony professional products and their full complement of Sony parts.

New for NAB2005 is SoftwarePLUS℠, a warehouse for software upgrades for Sony Professional Products. Additionally, customers will now have the ability to order training classes from the Sony Training Institute online.

Recording Media

continued from pg. 18

DigitalMaster tape with a 30 percent greater Diamond-Like Carbon (DLC) layer than consumer DV tape. Gunther noted the benefits this brings to a videographer during this transition time from SD to HD.

"A videographer can shoot in high definition, edit in standard definition to deliver a video needed today, and retain the HD master for later use," he said. "When you're going to hold onto material like that, DigitalMaster tape is your insurance that the video will still be there when you need it."

DigitalMaster Series

REAL CASH BENEFITS WITH SONY RECORDING MEDIA

Many Sony Professional Media users have benefited from the Rewarding Recording® program, which allows a program member to earn Rewarding Recording Dollars that can be redeemed for reimbursement on purchases, rental or parts and services on qualifying Sony professional recorders.

"It's a great loyalty program," said Vozeh. "Through the options of the program, our customers have realized real-dollar value for their businesses."

One customer that has benefited from the Rewarding Recording program for six years is Philadelphia's Banyan Productions, producer of nine reality-based programs.

"We accumulate anywhere between $3,000 and $4,000 in credit annually for Sony product purchases," said Banyan Field Production Manager, Lainie Segal. "It's like going shopping for free."

Over the years, the equipment Banyan has purchased by redeeming its Rewarding Recording credits has filled a real need at the company. "We have a lot of DV cameras, high-end large TV monitors, headsets, and a lot of other gear that post production goes through," she said.

"We've used Sony professional equipment and tape for quite a while for their quality and reliability, and a lot of our clients like getting Sony tape," said Segal. "The Rewarding Recording program just enhances the benefits of buying Sony tape by saving us money on products we buy to support the production of our shows."

For more information on Sony's Rewarding Recording program, visit www.sony.com/rewardingrecording.

SONY

Sony Electronics Inc.
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www.sony.com/professional

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World Radio History

NAB2005 PRODUCT REVIEWS

A review of selected gear on display at NAB2005

PRODUCT REVIEW

CAMERAS

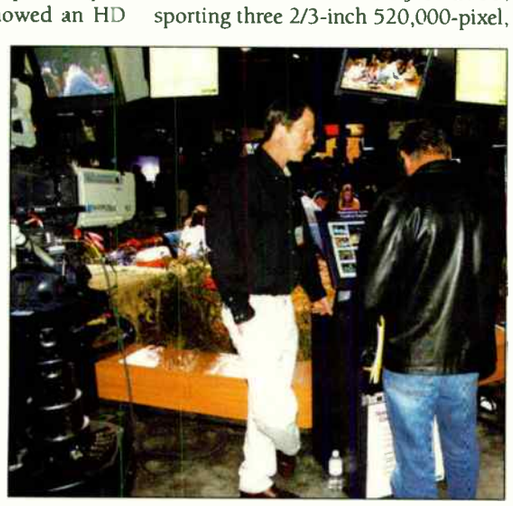
BY CRAIG JOHNSTON

High-definition imaging was stretched in two directions at NAB2005, with the introduction of 1080 60p (yes, progressive) native image capture on the high end, as well as a smattering of $5,000 HD camcorders.

Sony brought its new 1080p cameras to the show, the HDC-1000 (studio) and HDC-1500 (portable). The cameras can be sampled to yield 720p and deliver 1080i or 1080p natively.

The company also showed an HD prototype of the optical disk XDCAM system, and a fleshed out version of the SD version of XDCAM, which has sold well since the 2004 show.

Also drawing a lot of attention in Sony's booth was the HVR-Z1U HDV camcorder, an economical way for videographers to shoot in HD and deliver the finished product in either HD or SD. It shoots in 1080-60i or 24p, recording the images to mini-DV cassettes.



Cameras and control systems were popular at "Camp Sony," the outdoor-themed camera set at the Sony booth. Here Allen Phelps (L) of Sony explains a camera control system to Michael Camus of ABC (R).

For its CineAlta electronic cinematography line, Sony showcased its SRW-1/SRPC-1 Field Recorder, capable of recording the HD camera's 4:4:4 RGB images at up to 880 Mbps.

And in the SD arena, the company introduced four new camcorders capable of image capture in the 60i or 24p format: the DSR-400 and the DSR-450WS (widescreen) models to expand Sony's line of DVCAM professional camcorders, and the MSW-970 MPEG IMX camcorder and DVW-970 Digital Betacam camcorder.

If good things come in small packages, then **Panasonic**'s AG-HVX200 DVCPRO HD P2 handheld camcorder, introduced at NAB, will be a hit. The camcorder shoots on a P2 card in 1080/60i, 30p and 24p; in 720/60p, 30p and 24p; and in DVCPRO50, DVCPRO or DV. It uses three 1/3-inch CCD imagers, and has a mini-DV tape recording capability that allows shooting 16:9 480i or 480p images on DV tape and for editing with standard DV equipment.

Stephanie Schneider of Match Frame takes a close look at the Panasonic AG-HVX200 P2 HD camcorder.

Adding to its P2 camcorder line, Panasonic showed the AJ-SPC700, sporting three 2/3-inch 520,000-pixel, IT CCDs with 60i recording in 25 Mbps DVCPRO/DV and 50 Mbps 4:2:2 DVCPRO50 format on a P2 card. Aspect ratio is switchable between 4:3 and 16:9.

The company also introduced a proxy-video option to its P2 recording system, and also promised a new 8 GB P2 media card, doubling its prior recording time per card, and a shoulder mount HD P2 camera later this year. Panasonic also introduced a box-style AW-E860 16:9 3-CCD multipurpose camera delivering 850 lines of resolution, and 24p capability for the AJ-SPX300, AJ-SDX900 and AG-DVX100A camcorders.

Ikegami introduced an HD version of its hard-drive recording Editcam line, the HDN-X10, making it the first professional tapeless HD camera on the market. Using CMOS imagers, the new camcorder shoots in 1080/60i, 1080/50i, 1080/24p, 720/60p or 720/50p, all as native format. These HD images are recorded in full resolution on the FieldPak2 removable media with the Avid DNxHD codec in MXF file format.

Other new CMOS cameras from Ikegami included the new HDL-40HS High-Speed HD Box Camera, which can produce images at 1080/60p and 720/120p for slow-motion applications, the HDL-40C operating in 1080/24p, and the HDK-79EC portable camera system with SE-79D System Expander for conversion into a fully featured native, multiformat HD studio camera.

Also new from Ikegami was the HK-399W studio and companion portable HK-399PW standard-definition cameras, touted as using the industry's first 14-bit A/D converter. It uses the same ASIC as that of an HDTV camera and an AIT chip that achieves a smear level superior to that of an FIT.

JVC put its HD eggs in the HDV format basket with its ProHD initiative, rolling out the GY-HD7000U, a three-CMOS imager, HD/SD switchable electronic newsgathering/ electronic field production (ENG/EFP) style camcorder. It is touted as the industry's first moderately priced, full-size, full function three-chip high-definition camcorder for HD production and HD newsgathering.

The CMOS imagers can adapt to various scanning rates including 720p, 1080i and 24p, and can record on full-sized DV media as well as mini

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Photo credit: Bob Kovacs

World Radio History

Cameras

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DV tapes. It can also record directly to hard drive with the optional Direct To Edit HDD module.

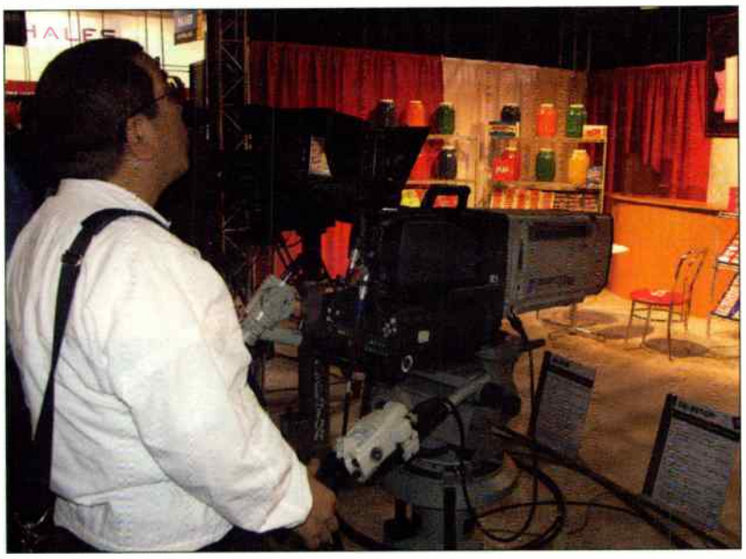
The company also showed its affordable HD GY-HD100U camcorder, a full resolution HD progressive camera recorder. The camera uses three newly developed 1/3-inch CCD image sensors, featuring an array of 1280x720 pixels (approximately one megapixel) each. The camera can image in either 24p or 60p-HD.

MASSIVE MEMORY STICK

Thomson announced that henceforth its broadcast and high-end television equipment will be branded **Grass Valley**.

The big introduction in the company's Viper FilmStream electronic cinematography camera system was a dockable recorder capable of recording 10 minutes of the unprocessed datastream from the camera's sensors. This gives a Viper camera operator the ability to work untethered to a recorder.

Also new from Grass Valley was the cost-effective LDK 4000, an HD camera offered in 1080i and 720p models, and featuring low power consumption and Thomson's HD Dynamic Pixel Management image sensor technology.



Yoshitaka Terasaki of Teletech in Japan testdrives a Hitachi SK301P HD multistandard camera.

In the standard-definition arena, the company filled the gap between its 12-bit LDK 300 and 14-bit LDK 500 cameras with a compact LDK 400 ITW 14-bit camera. The dockable designed LDK 400 ITW supports a wide range of uses, from affordable studio camera applications over multicore cables to high-end productions over triax cables. The camera head is compatible with Grass Valley Analog Triax, Digital Wireless, and the new DigiLink and Digital Triax systems.

Hitachi Denshi took its dockable Z-series camera heads tapeless by introducing the Z-DR1 recorder. The recorder uses standard laptop hard drives and records in AVI and MOV file-types that are supported by a number of nonlinear edit suites. The recorder's removable MediaPac media are available in capacities ranging from 20 to 120 GB providing as much as six hours recording time at 25 Mbps.

The company also unveiled its SK-3010P, an economical, high-performance addition to its SK-3000 series of HDTV cameras. The SK-3010P is designed for HD and SD field and studio production applications requiring multiformat (SD and HD) capabilities. The camera is available with natively scanned 1080i or 720p 2/3-inch IT CCDs.

This was the first NAB to see **Canon**'s XL2 DV camcorder, an upgrade from the XL1 that added improved 3-CCD imaging, variable frame rate to allow 60i, 30p and 24p, a customizable Cine Look, 16:9/4:3 switchable aspect ratio, a new 20X zoom lens with image stabilization, and skin-detail circuitry.

Brand new at the show was a new tapeless option for the XL2, incorporating the Focus Enhancements FireStore hard drive recorders. Recording on the hard drive can be done simultaneously with DV tape recording.

Film camera specialists **ARRI** showcased its D-20 electronic cinematography camera featuring a single six-megapixel CMOS sensor that is the same size as a Super 35mm film aperture, and placed at the same point as the film plane in a 35mm film camera. This makes the existing wide range of excellent optical quality of 35mm lenses available to users of the D-20.

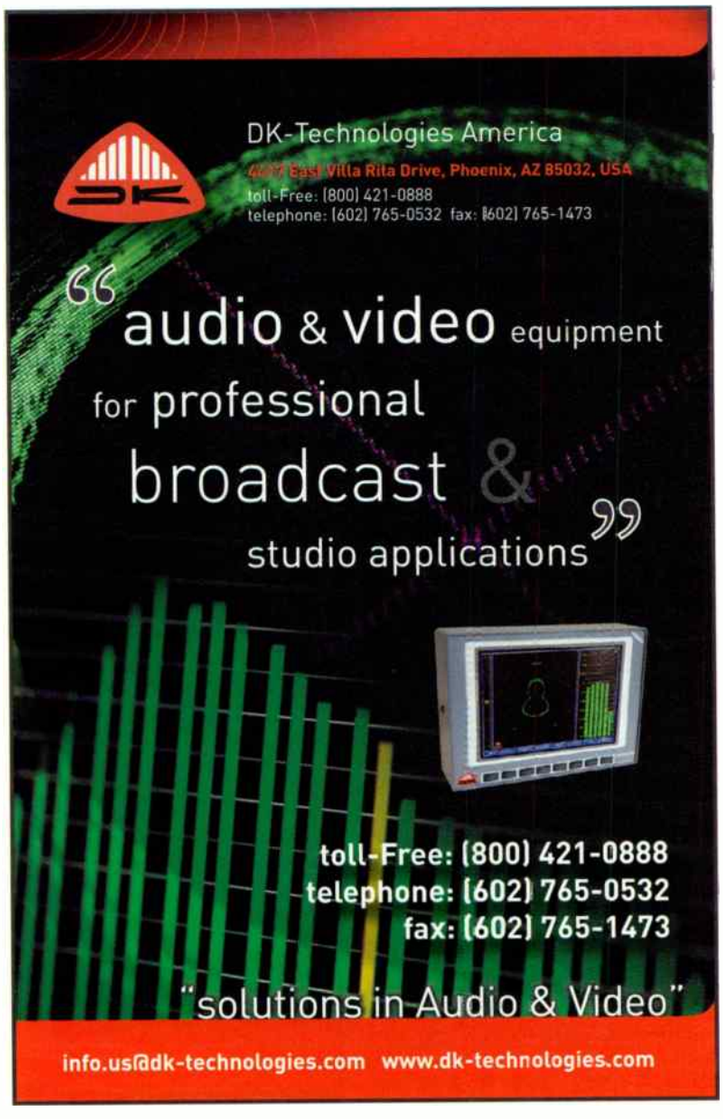
Also new for the D-20 was the mounting of Grass Valley's Venom FlashPak, which can record any of the camera's 20 various output formats without tethering the camera to a separate recorder.

Band Pro showed its Cine SpeedCam package, featuring a 1,536x1,024 CMOS imager capable of shooting widescreen HD images at up to 1,000 frames per second. At lower resolutions, this frame rate can be boosted to 10,000 fps. The Cine SpeedCam camera will work with a real-time electronic viewfinder with either PL-mount 35mm optics or Nikon bayonet mount lenses, and uses a separate capture station that runs under Windows 2000.

Photron demonstrated the Ultima APX-RS high speed video camera, providing full megapixel resolution as fast as 3,000 frames per second and up to 10,000 fps at 512x512 pixels. It uses a 10 bit CMOS sensor, and is engineered as a solid one piece design camera that can withstand shock forces as large as 100G's.

Randy Steinmeyer of JVC poses with the company's GY-HD100U HDV camcorder at the JVC booth.

21st Century 3D showed its 3DVX.2 Stereoscopic Motion Picture Camera System, slaving two small video cameras together with a dual lens system to record progressive scan 3D imagery at 24 or 30 frames per second per eye. This represents a doubling of the spatial resolution of traditional interlace NTSC systems, offering 720x480 resolution for each eye view simultaneously. Left and right eye images are recorded onto standard miniDV tape or direct to edit hard drives available from third party vendors. ■



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BATTERIES & LIGHTING

BY CRAIG JOHNSTON

NAB2005 saw no new breakthrough technology in batteries and lighting, but there were a number of previously pioneering initiatives that were shown as deliverable products this year.

BATTERIES & POWER SUPPLIES

Anton/Bauer presented its new HyTron 140 battery, employing a special nickel metal hydride cell technology to achieve a 16-percent capacity increase over the company's HyTron 120 battery. The 140 was developed to handle the high current demands of HD cameras and accessories.

(L) Eiji Nakajo of I.DEN Videotronics checks out the new IDX batteries with Ikuyo Kawano of IDX (R).

The company also unveiled its QBH-HD Quad Battery Holder for HD, allowing the operator to combine any four A/B Gold Mount batteries to create a flexible and long-life power source. It provides three 14.4 V and one 28.8 V outlets, and is capable of handling loads up to 10 amps.

Frezzi presented its Dual Channel Charger that delivers simultaneous quick charging for a pair of NiCd or NiMH batteries from one to 10Ah (Amp hour). An Auto-Rescue mode recovers over-discharged batteries by enabling a special charging mode.

The company also showed a new FPS-50 compact and lightweight 12 V 50 W regulated power supply. Its worldwide power input feature allows use of 90-240 VAC at 50 or 60Hz.

IDX introduced an upgrade of its E-80 Endura battery, dubbed the E-10. The 98Wh unit can be stacked to achieve up to 196Wh of life, and features a five LED built-in power meter.

The company also introduced the E-105, with the same 98Wh life of the E-10 but without the ability to be stacked and with a three LED built-in power meter.

IDX also showcased its i-Trax Power Management System technology for its battery line.

Jadoo Power Systems, which introduced hydrogen power cells last year, has received a DOT exemption to transport the company's storage system containing hydrogen absorbed in metal hydride via air cargo, clearing the way for the hydrogen power technology to take its place in video production with the more conventional battery power.

The company also presented its second-generation hydrogen power cell, the NAB II. The new cell provides predictable power, extended runtime and dramatically reduced recharge times. It is also 20-percent lighter than its predecessor.

PAG unveiled its PAG L95 Power Circle Battery, using Li-Ion cell-technology to achieve a 95 Wh capacity with a weight of only 1.67 pounds. The unit can power a camcorder along with a light up to 35 W.

The company also introduced its new V-Mount compatible L95 Time Battery. The unit's power and time display shows remaining camera runtime, counting-down in one-minute increments that are updated against changes in load.

Phylion presented its array of Lithion-ion batteries and chargers in the NP, AN, BP and PK form-factors.

VFGadgets introduced a new High Amperage 12 VDC Camera Power Supply, capable of supplying 10 amps for higher current draw high definition cameras. The company also featured a range of battery belts.

VariZoom displayed its Batt Power battery line including an array of Lithium-ion and Ni-MH batteries, along with its Digital Battery Administrative System.

Cine Power unveiled its Magnum 30, a 30Ah ultra-high capacity battery with multiple output monitoring. The unit features protection against over-discharge, and a high power output socket with additional Neutrik gold plated low loss XLR connectors fitted as standard.

LIGHTING

ARRI unveiled its ARRI X Ceramic 250, based on the new Ceramic ST 250 HR lamp from Philips that provides 3200K Tungsten equivalent light from a discharge lamp. Due to the lower power consumption (250 W), the fixture is much cooler than a comparable Halogen fixture and is much easier to work with where power is limited.

brightline has included the ability to be controlled over a network into all of its fixtures, allowing them to be IP addressable. Its VC T-Series lights can be recessed into ceilings to provide controlled newsroom set lighting from what appears to be normal ceiling light.

Bron Kobold, specialists in all-weather light fixtures, took the wraps off its new All-Weather DW 800 HMI system, designed for heavy-duty use and maximum reliability even under extreme weather conditions. The new 800 system can be configured as a PAR, or focusing Open Face, and can also be used for bare bulb applications such as soft boxes or lanterns. The system uses the Bron Kobold EWB 400-575-800 multi wattage AC ballast unit. IP43.

Chimera showed off its Pancake Lantern, a softlight that can be suspended over the center of a televised roundtable discussion to provide even fill light for all participants. It is available in 21-inch, 35-inch and 48-inch diameter sizes.

The company also presented its Quick Release Speed Ring, a quick-connect device that not only simplifies setup and teardown, but also allows quick folding of a lightbank to move through doorways or on narrow sets and allows the lightbank to be collapsed without disassembly.

Frezzi unveiled its Full Spectrum LED light, an 18 W LED fixture that can vary its color throughout the entire visible light spectrum. It has presets at 3,200K and 5,600K, and provides user-defined presets as well.

The company also rolled out its new SSG-400 Super Sun Gun HMI, available for both AC and DC operation, and the LED camera light, a dimmable on-camera LED light drawing less than 15 W.

IDX unveiled its new X3-Lite, an on-board camera light using high-powered LEDs to provide high output with minimum power consumption. The 5,600K daylight source is equivalent to a 35 W battery light yet draws a maximum of 11 W. It includes a built-in dimmer.

K5600 rolled out its BlackJack 400, providing daylight illumination through either its soft or spot drop-in Fresnel lenses, or with an open face. The fixture joins the company's compact line of Joker-Bug fixtures.

Kino Flo debuted its ParaZip 400, a 4-foot fluorescent soft light that has been designed with a very wide light throw.

The company also introduced an 8-foot soft light made by combining four 4-foot banks.

Kino Flo also brought its new 4Bank Select DMX Ballast, with the ability to control fixtures or individual lamps from a DMX dimmer board.

Ko Yong Photo presented the Visio line of fluorescent fixtures, including the new Visio P5502 lightweight two lamp unit. The fixtures can be fitted with either tungsten or daylight balance bulbs.

The company also showed the Visio Softlight 100, a fluorescent softbox fixture.

LightTech Group displayed its range of dimmable and non-dimmable fluorescent fixtures, including the CFL 155 single tube fixture, the CFL 255 two tube fixture, and the CFL 455 four tube fixture.

The company also has the non-dimmable BFL Light, sporting sixteen 55 W tubes.

LitePanels introduced its One-by-One fixture, a one-foot by one-foot array of high output LEDs that allow users to dial in any color temperature

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Jeff Foss (L) of KTVN gets a demonstration of the Lite Panels Ringlight from Kevin Baxter (R).

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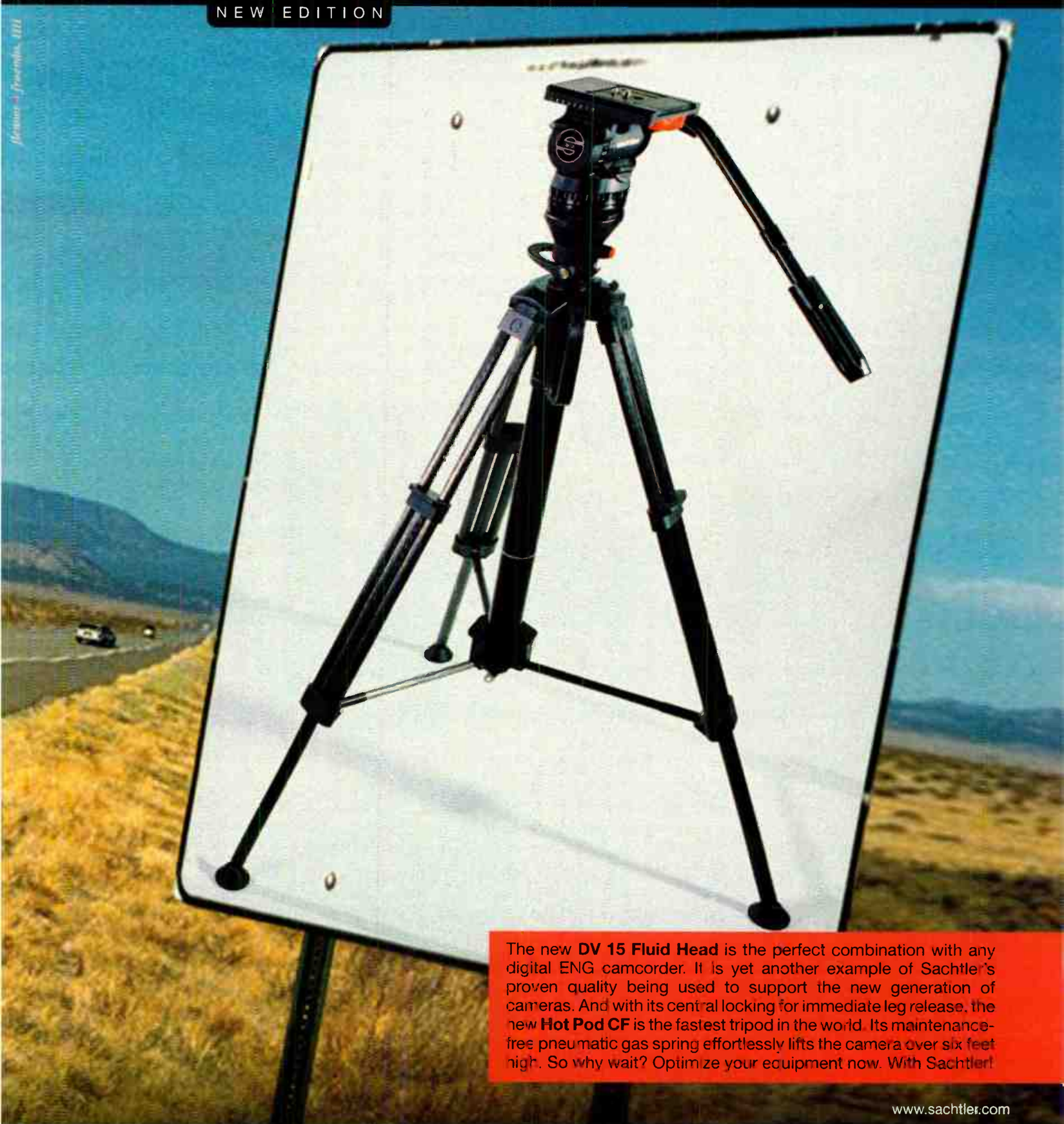

The new **DV 15 Fluid Head** is the perfect combination with any digital ENG camcorder. It is yet another example of Sachtler's proven quality being used to support the new generation of cameras. And with its central locking for immediate leg release, the new **Hot Pod CF** is the fastest tripod in the world. Its maintenance-free pneumatic gas spring effortlessly lifts the camera over six feet high. So why wait? Optimize your equipment now. With Sachtler!

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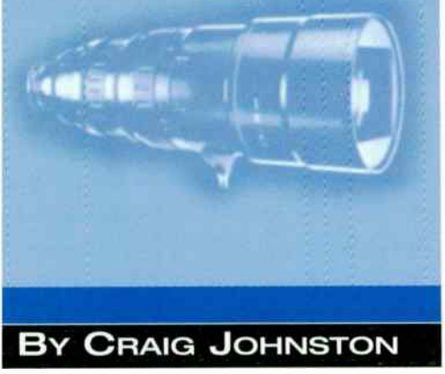
PRODUCT REVIEW

LENSES



BY CRAIG JOHNSTON

NAB2005 saw a quite a few lens developments aimed at filling in the needs of high-definition production. Lens accessory-makers aimed in particular at providing products for the new Sony HDV camcorders.

Canon took the rigors of ENG field conditions into consideration when designing its new HJ17ex7.6B high-definition lens series, featuring improved resistance to dust, a faster zoom motor, and lighter weight. It features a 2X extender, and a switchable aspect ratio (16:9 and 4:3) version of the lens with Canon's "Crossover" option.

The company also introduced a lower cost HD box lens, the DIGI SUPER XJ60x9BIE-D designed for arenas where the very longest zoom range is unecessary. With its 60x zoom ratio, this lens does not require the built-in Image Stabilization system that is standard in the longer telephoto lenses.

Along the same lines of affordability, Canon introduced two new economical SD lenses, the DIGI SUPER PJ62x9BIE-D and PJ62x13.5BIE-D 62x zooms. The PJ62x9BIE-D offers a 558mm telephoto with a wide-angle field of view; the PJ62x13.5BIE-D offers a longer 840mm telephoto with a narrower wide-angle field of view.

Addressing the market for remote-controlled HD cameras, Canon introduced the KH19x6.7 KTS Remote Controlled High Definition lens. It is designed to meet the specifications of the Sony HDC-X300 and HDC-X310 cameras, offering remote-control capabilities of zoom, focus, and iris, controllable either by Canon- manufactured control devices, a Sony remote-control panel, or by robotic systems. The lens will also operate as an integral part of Sony's "Auto Focus" system.

Fujinon added features to its lens lines, including expanding the number of lenses available with its Precision Focus Assist. The device precisely adjusts the lens for optimum focus, aiding in this critical function in HD production. Precision Focus Assist is now available with the XA101x8.9BESM, HA22x7.3BRD, HA26x6.7ESM and HA13x4.5BRD-S28K high-definition zoom lenses.

The company also announced a new external optical stabilization system available for the company's full range of HD and SD ENG telephoto lenses. The TS-P58a stabilizer provides an anti-vibration range of up to 20 percent of picture height. The device, which sits between the lens and the camera, also increases the lens magnification by a 1.25 factor, effectively making the lens more telephoto.

Also new from Fujinon is the HA25x11.5BERD HD ENG-style lens, designed especially for applications where long telephoto shots are necessary. With its 2x extender engaged, the lens' maximum focal length is 576mm, and it features a maximum aperture of from 2.0 to 2.8 through the zoom range.

The company also debuted two remote-controlled lenses for the Sony box-style HDC-X300 HD cameras: the HSs18x5.5MD-D18 for corporate and video-conferencing applications, and the HSs18x5.5BRD-D18 for ENG-style productions.

David Palmer of Mike Vasilinda Productions tries out the Fujinon HD Precision Focus system on a Fujinon HA22x7.3BTD-PF lens.

Thales Angenieux, in partnership with Vision III Imaging, showed a Moving Optical Element parallax scanning lens device that allows conventional video production cameras to shoot images with enhanced texture and depth that appear as three-dimensional when viewed on virtually any standard image displays such as TVs, film and video projectors and computer monitors. The technology was demonstrated with Thales Angenieux's Digital 26X HD ENG/EFP and 15X 8.3 AIF HR ENG/EFP zoom lenses and a standard video camera, and was viewable without special glasses.

The company also returned with its line of portable and box lenses, including a new entry, the Optimo 15-40mm Hand Held Zoom Lens, designed for Steadicam applications and use with the new ARRI 235 35mm film camera.

The new ruggedized Canon HJ17ex7.6B targets HD ENG.

HDV & D-CINEMA

Carl Zeiss in the Band Pro booth touted its new DigiWide 3.9 lens as the widest prime lens available for HD cinematography. The T1.9 electronic cinematography lens approximates a 10mm focal length in 35mm cine to offer an extremely wide view with high image clarity. The 3.9mm was designed to eliminate geometric distortion and color fringing, allowing the lens to be used for CGI work with minimal correction in post production.

Panavision's 300x zoom lens was again on display at NAB, with a newly added gyrostabilizing system to take the shake out of images at the long end of its 7mm to 2100mm zoom range.

Abakus brought its HD and SD extreme wide-angle lenses, highlighted by the 170-degree (in 16:9) wide-view Abakus Stadium 3.5mm lens, which remains in focus from infinity to the lens surface. The company also showed the 114-degree (16:9) wide-view Abakus Arena lens and the 88-degree (16:9) wide-view Abakus Theater lens.

Century Optics unveiled a new .7X HD Wide Angle Converter designed for the Sony HDV camcorder's high resolution, wider angle lens system. The add-on lens produces crisp, high-resolution images with low distortion, maintaining uniform contrast edge-to-edge. The com-

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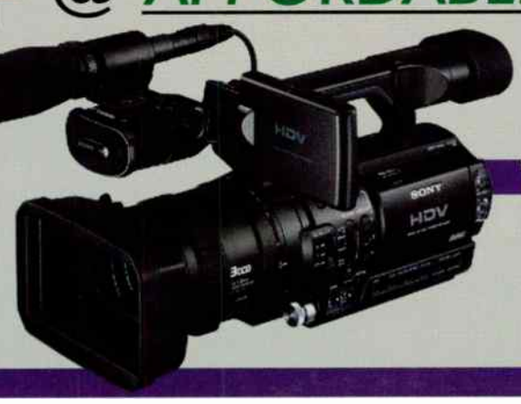

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pany offered an introductory special, a free rectangular 105mm clamp-on wide-angle sunshade with a provision for one 4x4 glass filter in a holder.

Innovision Optics debuted a 45-degree angle prism to its HD Probe lens system, joining the 90-degree prism.

OpTex introduced its Excellence Periscope/Probe lens, designed for use on HD or SD 2/3-inch imager cameras. It is available with 120, 100, 78 and 60-degree horizontal fields of view, with color-matching so the different lenses can be interchanged without color shifting. A 90-degree prism section is available, as are mounts for many video and film cameras.

The company also introduced a viewfinder extension allowing video cameras to be used with cinema camera support systems.

P+S Technik added a Sony HDV camcorder connecting mount to its Mini35 system, which allows the use of 35mm lenses from ARRI, Nikon, Panavision, Leica, Zeiss-Contax and Canon. Connecting mounts are also available for camcorders from the Canon XL series, Panasonic DVX series, and Sony PD150, PD170 and VX2000.

Christopher Mayhew of Vision III Imaging poses with the company's V3 depth-enhancing optical device, which was fitted to a Thales Angenieux lens.

Formatt Filters introduced three grades of special HD soft filters, using the well-established film technique of water droplets on glass, adjusted for the properties of HD imaging. The filters are chromatically neutral.

Schneider Optics added four new filters to its Classic Soft line: Classic Black Soft, Double Classic Black Soft, Classic Soft Grad, and Classic Soft Clear Center Spot. The line combines effects of the company's Soft filters with that of its Black Frost, offering the benefits of both without the need for filter stacking.

Tiffen added a Low-Light Polarizer to its filter lineup. It is designed for one *f*-stop of compensation for indoor and other low-light shooting situations where there is not enough light to use standard polarizing filters requiring more compensation.

The company also introduced its Color-Grad line of filters in a new 5.650-inch by 5.650-inch size.

Chrosziel introduced several lens accessory products for the Sony HDV camcorders, including a new matte box. The mattebox system is a 16:9 design that includes a filterstage for two filter-holders (one rotating and one fixed), and full-size French flag. It also has room for both wide and telephoto attachments.

The company also showcased its DV Studio Rig-Follow Focus System, specially designed for DV camera lenses equipped with a gear ring. Small and lightweight, the unit is designed to fit most full-sized camcorders, and works with the Sony HDV camcorders as well.

Vocas brought its range of matteboxes for smaller camcorders, including two new models designed for the Sony HVR-Z1U and HDR-FX1 HDV camcorders. Vocas matteboxes are engineered to either attach directly to the lens in clip-on fashion, or to use a rail support system.

R.D. Petroff showed three sizes of its modular matte box, 4x4, 4x5 and 5x5. The units support a wide variety of film and video lenses, and can go from a sunshade to a three-rotating stage matte box in seconds, without the use of tools. A single stage filter can rotate 360-degrees, and the snap-on system makes adding filter stages quick and convenient.

Libec USA brought a pair of zoom controllers, the ZC-9 for Canon and Fujinon ENG zoom lenses, and the ZC-3DV for DV cameras supporting the LANC protocol. Both feature variable speed zoom control and a universal mounting system. ■

Everything looks better in 16:9.

Introducing the ERG HDM-EV85 portable HD monitor, designed specifically for the Sony HVR-Z1U High Definition Camcorder. With a 16:9 aspect ratio and an underscanned image, this monitor allows you to see exactly what the camera sees. So you can frame a picture-perfect shot.
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Photo courtesy of Sony Corporation

ERG HD Monitors

World Radio History

STORAGE & RECORDING

BY SUSAN ASHWORTH

With the emergence of new audio and video formats along with an expanded focus on IT for broadcast systems, server/storage and recording technologies were the center of attention at this year's NAB.

SERVERS

360 Systems introduced the next generation in its Image Server product line, the Image Server 7000, a two-input, six-output broadcast server with up to 600 hours of RAID-protected storage. Also new were 360 Systems self-mirroring servers and new Terabyte drive arrays for the Image Server 2000 and Image Server 7000.

Adtec showcased its DPI-1200 digital transport ad server, and announced a new partnership with Pixelmetrix for a digital program insertion system.

Accom debuted the ProServ MX.8 video production server, which offers up to four HD channels or up to eight SD channels, all with symmetrical I/Os. In addition, the company launched the APR/ClipStore MX universal-format disk recorder, which combines Accom's new Sequoia video/audio processing hardware, disk drive technology and network access via Accom's NetPanel GUI. Also new is the APR/ClipStore MX, the lower-cost APR/ClipStore MXc and a new delay system called AirCleaner.

Asaca Corp. announced a partnership with **Nverzion** to provide a turnkey video automation solution by pairing its new Sony Professional Disc for Data (PD)-enabled series of TeraCart optical libraries with Nverzion's latest HDM model featuring the company's TeraStore Server and Xpansion archive control software.

ATTO came to NAB with new storage solutions that feature 4 GB Fibre Channel technology, including the iPBridge 2700C/R/D iSCSI-to-Fibre Channel bridge, and the Celerity FC-44ES four-port Fibre Channel storage adapter

BUF Technology showed a new SDI digital video option for Sport, its miniature instant replay system and server.

Chyron introduced the X-Clyps graphics server, which can be configured to operate with one or two independent, switchable HD/SD channels. The company also showcased the MOS newsroom server that uses the Chyron ActiveX interface to browse assets and produce graphics, allowing a user to remotely access a library of templates from the MOS server.

This year **Ciprico** came to NAB with Huge Systems at its side, after acquiring the company at the end of January. Ciprico introduced new MediaVault 4 GB Fibre Channel storage solutions, as well as several enhancements to its DiMeda family of network-attached storage solutions and a new RAID 6 storage solution.

DG Systems showed the SpotBox, a broadcast content server that offers Internet and satellite delivery options with enhancements that include increased satellite bandwidth.

Digital Broadcast showcased the MediaFire broadcast server, which can instantaneously receive and play to air syndicated programming from the Pathfire DMG server.

(L to R) Robert Easton, president of 360 Systems, demonstrates the company's new Image Server 7000 to Rick Serre of WQAD.

Celebrating its 20th anniversary this year, **DVS Digital Video Systems** came to NAB to unveil its storage area network server, DVS-SAN, designed for digital intermediate work. The system allows multiple workstations to work on high-resolution HD and film 2K data in real time.

MCS VIDEO SERVER
MULTI-CHANNEL SERVER

HD & SD
Automated Playback
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VTR Replacement
Sports Slow-Mo

Doremi Labs' MCS Video Server provides up to four independent record and play video channels in a compact 3RU chassis. A second MCS Server can be added to create a six channel system with shared RAID5 storage.

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doremi

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The system is designed for digital media access and distribution in collaborative post environments. The ExaMax 9000 cache can sustain an I/O throughput in excess of 5 GBps, allowing users to access 2 TB of dynamic cache for content access and delivery.

Front Porch Digital unveiled Archive in a Box, a digital archive option that includes server, disk, tape and modem.

Globalstor showcased ExtremeStor-HD, a video storage server that incorporates twenty-four 250 GB hot-swappable SATA hard drives for up to 6 TB of local storage, or twenty-four 400 GB hot-swappable SATA hard drives for up to 9.6 TB. The company also showed the ExtremeStor-4K, designed to accommodate the manipulation and playback of uncompressed 4K video content.

Grass Valley announced that it has begun development of a range of servers tailored to the digital cinema market. The company also showed its Networked Attached Storage system, which enables shared-media access across a suite of digital news production products. Other solutions on tap include the Profile XP Media Platform servers, Profile 6G servers and M-Series iVDRs.

IBIS demo-ed a newly redesigned ServerLoad Sport, which allows for the capture of highlights at ingest through up to six different feeds. Features include dual screens and thumbnails, which are directly linked to video.

Just Edit showcased vsnlegalrec, a backup storage system offering up to six months of storage in a single workstation.

Leitch brought HD to town as part of its NEXIO server system, which now integrates a software-based codec for HD, allowing for baseband HD record and playback while supporting upconversion and downconversion of content for simulcast applications. Features include two channels of HD output, or one channel of input and one HD output, in either 720p or 1080i. The server coordinates directly with Leitch's new Ingest Control Manager, which can now handle and process HD as well as SD content. Leitch also announced that its NEXIO and ITS servers now support Panasonic's P2 platform.

Medea showcased new RAID arrays for the broadcast, post and content delivery markets that incorporate 4 GB Fibre Channel interfaces and controller technology mated to SATA disk dives, including the StreamRAID 15 and the VideoRAID XTRM4.

Broadcasters can now play back both SD and HD simultaneously from a single timeline, regardless of whether it's an SD or HD clip source, via the newest generation of Omneon Spectrum servers from **Omneon Video Networks**. This streamed hybrid playout feature is possible via a new interface called the MultiPort 4100 series. The system features built-in upconversion and downconversion; customers can also select a preferred external device for upconverting and downconverting. In addition, the company announced that it is partnering with Snell & Wilcox to integrate Snell's Memphis encoder into the Omneon server. The company also showcased other HD interfaces for Omneon servers, including the MultiPort 4000 and MediaPort 4010.

Pinnacle Systems introduced its Thunder HD server, a new high-def member of the Thunder broadcast server family. Features include 750 GB of RAID 5 storage, allowing 17 hours at 100 Mbps. Thunder can be configured as a one- or two-channel system. Other solutions on display included the MediaStream play-to-air server, which now offers expanded integration between the MediaStream and the Pinnacle DekoCast graphics system.

Pixelmetrix launched the latest version of its DVStor storage system, now supporting up to 2 TB of online storage. With the ability to simultaneously record and playback MPEG-2 transport streams, users have online access up to five days in a satellite environment or up to 10 days in a terrestrial environment.

Quantel introduced a new concept known as "News to Go" based on a new product—Newsbox. Features within this news production server include ingest and playout automation. The system can also be used as an on-the-go solution, as it can be broken down into two 24-inch flightcases and be taken on the road.

STORAGE, PAGE 124

HD DIGITAL

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AUTOMATION

BY SUSAN ASHWORTH

If you were looking for proof that the IT revolution has finally hit the broadcast industry, you didn't have to look any further than the advances made in automation at NAB2005.

Newsroom systems from the **Associated Press** could be found all over the newsroom floor, including the company's flagship ENPS newsroom production system, which offers features such as on-air ticker management, Follow-Me Messaging to reach journalists in the field, and continuous content rundowns.

In addition to providing prompting systems during the NAB-HD demonstration at NAB2005, **Autocue** came to the show to highlight QLog, a newsroom automation tool that enables searching of archives for spoken words or phrases without prior transcription. Other solutions included QLog+, an enhanced version of QLog and QScore, which allows sports results to be entered manually or collected automatically.

Avid Technology showcased News Cutter, a journalist-focused newsroom automation tool that speeds the assembly and production of a spot or report.

Comprompter News and Automation showed off the newest release of the NewsKing Newsroom automation system in a Windows environment. The company also showcased its tapeless newsroom tool, the NewsKing ClipTracker, a software-based program that runs between the newsroom and a video server, as well as its next generation of automation control called NewsKing Next!, which provides a sequential view of the newscast and highlights an upcoming event.

At the **Crispin** booth, the company showcased the next generation Supervisory View for Rapid-PlayX, a system that allows users to see multiple play-to-air channel statuses with visual messages. The company also demonstrated its NewsWheel solution, which allows broadcasters to add additional features—be it a DTV programming stream or a round-the-clock news or weather channel—with fairly minimal investment. The system supports live news, weather breaking reports, commercials and other events. The company also showed its other automation solutions, including the System 2000 suite of automation applications.

Chris McDuell (L) of Florical explains the company's Supervisory Monitor for multichannel monitoring and control to Jeff Phillips of KARE (R).

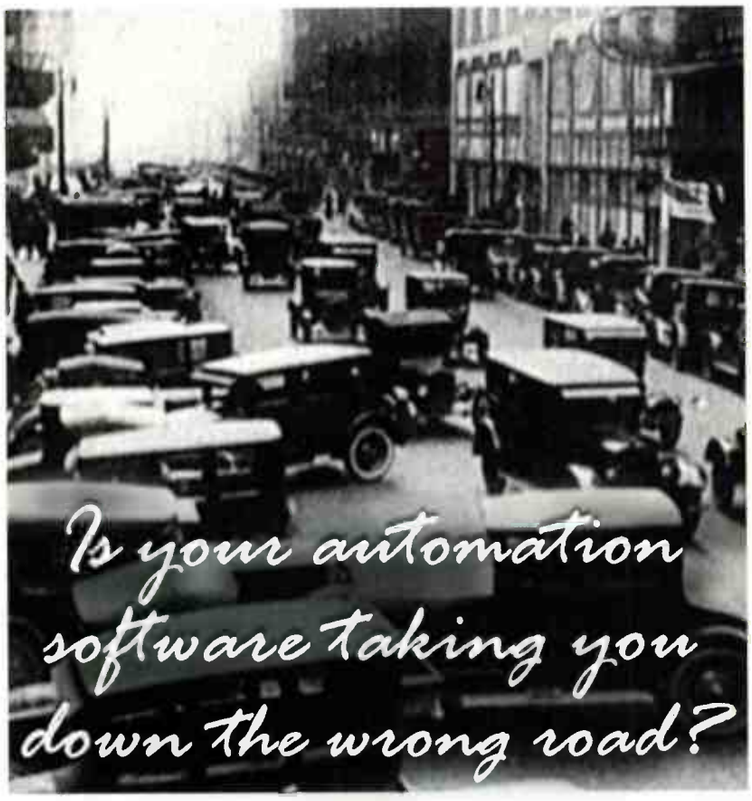
Dalet Digital Media Systems showed the new DaletPlus News Suite, a set of software modules for automated ingest, playout and archive.

Walter Farley (R) of KIRO-TV demonstrates Sundance Digital's NewsLink newsroom automation system to (L to R) Tony Louis and Ellen Heine, both from Sony.

Digital Transaction Group premiered its new XE solution, the eXtensible Edition, Automation and Content Lifecycle Management software. This XE software is a media asset management, lifecycle and television automation system capable of managing and controlling content from ingest to the end of the media's lifecycle. The XE system controls 64 serial devices and four on-air channels. The company also showcased its Airo automation system and introduced Eclipse, a new automation and content lifecycle solution that tracks content, programming and scheduling data, and provides customers with the ability to process, catalog and delivery content via a simplified format.

New playlist, playout and router control models were on display from **DNF Controls**. The company's Flex Control Ethernet-based system controls VTRs, video servers, routers and other devices. Other new solutions included the ST304-DSR1K-T, a new slow-motion controller for the Sony DSR-DR1000 hard-disk recorder; and the Drag and Drop Shotbox Tool, which works with the Grass Valley Profile Media Manager and the DF 2044 CL Instant Access Clip Control system to assign video clips to the Shotbox.

New solutions from **Florical** included a new automated Join in Progress feature, which automatically joins a program in progress based on a remote signal from the network; Breaking News, a system that allows broadcasters to set up pre-programmed sequences so a single operator can insert local or breaking network news with a variety of effects; Supervisory Monitor, designed to monitor and control up to 16 presentation channels from a single computer; and Traffic Assist, which provides production details for on-air operations. The company's other solutions included a new interface to PathFire for ShowTimer, Florical's



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automation program that helps coordinate the acquisition of programs via IP; AirLogger, which is designed to automate the off-air logging process; and AirGuide, designed to provide up-to-date EPG information for multiple digital channels.

Harris debuted the newest solutions from its H-Class Playout Automation and Media Ingest family: the H-Class Broadcast Presentation Manager, a playout automation offering, and the H-Class Media Ingest system, a suite of tools for automating the media ingest process. Harris also introduced the Harris Traffic/Automation Integration Suite, an application designed to increase operating efficiency by integrating ADC and D-Series playout automation systems with the Broadcast Management System and Paradigm traffic systems.

Connie Stevens (L) of Comprompter explains the company's NewsKing newsroom automation to Darla Stevens (R) of Stevens Media.

IBIS introduced a new distributed control and automation architecture called PAC, which allows broadcasters to implement a range of process, control and automation systems designed to integrate with the IBIS range of station automation, news/sports automation and channel/asset management systems.

Just Edit showcased the newest version of its master control room automation playout system, known as vsnmatic, which features multiformat file playout in the same rundown; as well as the latest version of vsnnews, a newsroom system.

Leightronix introduced a new automation solution known as NEXUS, an all-in-one solution for local cable and broadcast TV operations. NEXUS provides multichannel digital video playback and recording, digital messaging, DVD/VCR machine control, and video/audio signal routing.

Leitch unveiled an enhanced version of its Ingest Control Manager, which now includes devices that handle and process HD content. Designed for news and transmission environments, the Ingest Control Manger uses EventBase for event scheduling and device management, including device control for both HD and SD environments.

MicroFirst showed a new version of its Digital Automation System, an expandable automation and management system that provides metadata management and device control, as well as graphical device control and monitoring and maintenance of wide-area networked systems.

Nverizon showcased its Flexicache, a system that allows users to automatically download programs or spots into a video server, and can be integated with the Nverzion archive management system Xpansion.

Octopus Newsroom debuted the Octopus5 MOS 2.8-compliant newsroom computer system, which interfaces to playout/news automation systems, CGs, stillstores and graphic systems.

OmniBus Systems came to NAB with Colossus V3, an automation system based around the company's G3 architecture, which is designed to be flexible and adaptable to broadcasters' different operational requirements. The system is designed to control large numbers of channels, items or devices through a customizable desktop-based user interface. Other solutions on dis-

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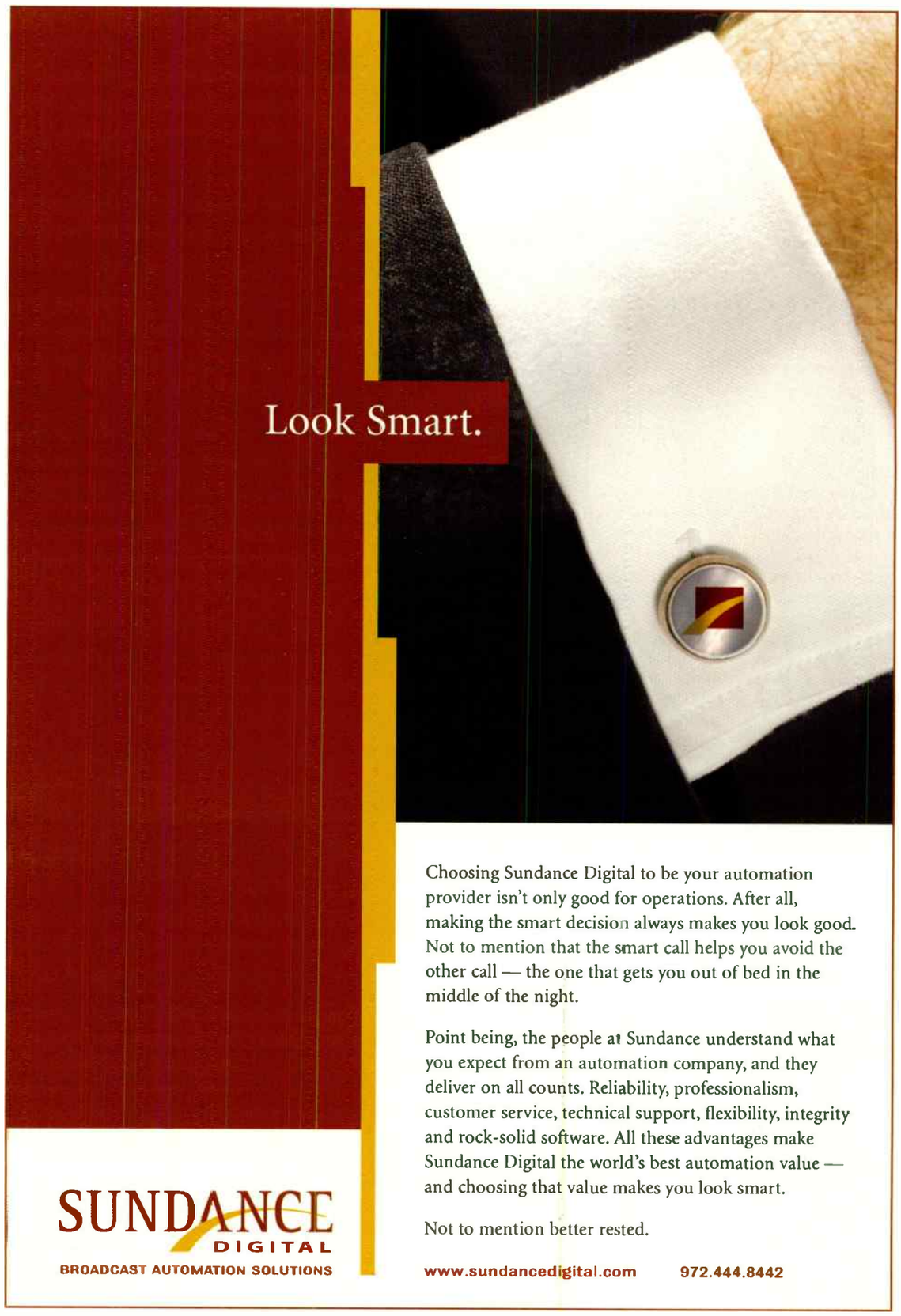

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CAMERA SUPPORT

BY CRAIG JOHNSTON

If you want to meet the inventors on the NAB exhibition floor, follow the path to the camera support equipment providers' booths. These are the suppliers who see a need and fill it. And the one trend in camera support was in supplying equipment for the new HDV camcorders just hitting the market.

TRIPODS & FLUID HEADS

Cartoni debuted its lightweight Focus Fluid Head, designed for DV cameras weighing from 2.2 to 22 pounds without changing the counterbalance spring. It interfaces with all 100mm bowl base tripods and supports. The head's tilt angle is +/- 90-degrees.

Gitzo showed its new 1380 fluid head, which features six color-coded interchangeable springs to vary the counterbalance for cameras from 2.2 to 22 pounds through a +/- 85-degree tilt range. Also new from Gitzo was its 1325V Carbon Fiber Cine/Video Tripod Legs, which offer spiderless support for up to 26.5 pounds and can operate at an elevation from 4.3 inches to 59 inches.

Libec USA debuted its LS 55 fluid head, patterned after the company's LS 50 with a redesigned torque unit and slide plate. It is designed for camera loads of up to 22 pounds. The company also redesigned its LS 35 fluid head, yielding the LS 37, with a payload of 16 pounds.

Manfrotto introduced its 519 fluid head, featuring two drag controls and locks as well as two counterbalance springs that allow +/- 90-degrees of tilt for cameras from 2.2 to 22 pounds.

The company also showed its 351MVCF two-stage, carbon fiber video tripod. Stage one features a twin leg design, while a single leg is used for stage two.

Sergio Penetra (L) of Telemetrics explains the operation of the company's TeleGlide camera track system to Ronnen Horwitz of Motionism.

Miller Camera Support unveiled its SOLO ENG 100mm lightweight carbon fiber tripod, with 3-stage construction and capable of elevations from 16 inches to six feet two inches. It is designed to be paired with the Arrow 30 fluid head, featuring a seven-position selectable pan and tilt action and four-position counterbalance. The company also showed its SOLO DS10 and DS10 true fluid head, designed for camcorders in the size range of the new Sony DVC units.

OConnor Engineering showed three new fluid heads designed for HD cameras, the 1030HD, 1030HDS and 2060HD. All are full featured, sinusoidally counterbalanced fluid heads designed to perfectly counterbalance cameras through a full +/- a 90-degree tilt range. The 2060HD, weighing 16 pounds, can balance a camera weighing 83 pounds.

Sachtler introduced five new fluid heads with payload ranges from 4.5 to 35 pounds: the Video 15 SB, DV12 SB, DV8/100 SB, DV8 SB and DV6 SB. All five feature SpeedBalance, either a 10- or 12-step counterbalance to reduce setup time.

The company also introduced the Speed Lock 75 CF professional carbon fiber tripod with compact dimensions.

Slik-Daiwa Broadcast Tripods debuted its EP56 fluid head, an upgrade from the company's EG42 model. The EP56 handles cameras up to 35 pounds and comes with a two-stage carbon fiber tripod with a 100mm claw-type ball base.

Vinten introduced another member of its Vector family of tripods, the Vector 60. More compact and economical than the company's Vector 70, it uses the same drag system as the 70 and the counterbalance technology from the Vector 900. The 60 holds camera systems up to 140 pounds.

Lisand premiered its new Studio Pedestal, which handles camera payloads up to 50 pounds, with optional cartridges available to increase the payload to 100 pounds.

Shotoku Broadcast Systems debuted a new pneumatic pedestal, the four-stage TP-80. The unit has a capacity of 275 pounds, a minimum height of less than 20 inches and a maximum of 59 inches. It is designed to operate on half the air pressure of existing pedestals on the market.

REMOTE CONTROL

Vinten showed its AutoCam Series 200 robotic camera system, which has been upgraded to allow up to eight remote control locations. Also upgraded is the Quattro robotic pedestal, which has had its balance profile modified to make it easier to raise the column in the upper height range. It also now features elevation markers on the column, and a document holder on the pedestal.

Vinten/Radamec says it will introduce a new robotic line at NAB2006.

Shotoku Broadcast Systems introduced a complete new range of broadcast robotics at NAB though a completely new company, Shotoku Ltd. in London. Its TR-8S control panel is designed for legislatures and parliaments, and can store up to 900 shots per camera.

The TR-8T is a touchscreen controller capable of controlling an unlimited number of cameras.

The company presented three pan/tilt heads, the TG-17 for camera loads up to 33 pounds, the TG-18 for up to 110 pounds and the TG-19 for up to 154 pounds.

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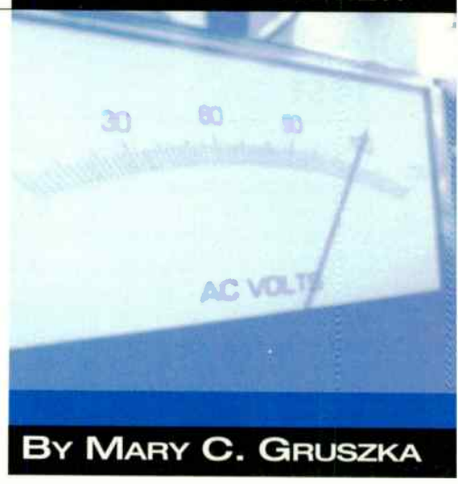
PRODUCT REVIEW



BY MARY C. GRUSZKA

The NAB2005 show floor was teaming with a wide variety of test and measurement products. For audio, there were more ways to measure and monitor 5.1 (and beyond) surround sound. For video, rasterizers came with more options including some with Dual Link. And to keep up with the growing number of formats were the wide range of signal generators, some as small as a penlight.

AUDIO

Audio Precision demoed the 2700 series PC-controlled audio measurement instrument for analog and digital. Hardware and software system modules and functions are operated by settings or software panels, with measurements provided in panel reading displays.

DK Technologies showed new software for its flagship audio meter, the MSD600M++ that adds new graphical Leq. Also new is a SMPTE timecode input that provides automated start/stop points and a direct readout of where sound material can be optimized for louder trailers or commercials, new Windows software for internal matrix settings, a USB utility module and BNC versions of the I/O modules.

DK also exhibited the production model of the MSD660R multichannel/multi-format audio monitor. The unit comprises a base unit and a remote panel with VGA display and control buttons and features logging software for overs and mutes, surround sound compatibility for 4.0, 5.1, 6.1, and 7.1, and facilities to monitor up to 32 channels.

Also on hand was the MSD100C stereo audio monitor and the PTO660M rack-mountable multi-channel audio monitor.

Dorrough demonstrated the 12-AES digital loudness meter.

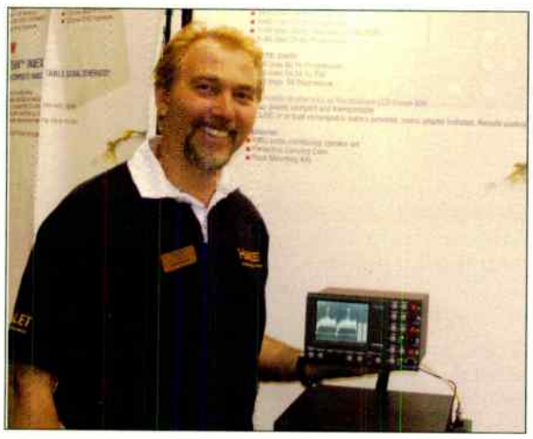
Eyeheight exhibited the periScope dual in-vision audio level display for use with embedded or AES/EBU audio. Left and right audio channels (or dual mono) are superimposed as three-color bargraphcs, one on each side of the program picture.

Lectrosonics entered the test and measurement market with the TM400, a new wireless system for sound system test and measurement. This system uses Lectrosonics Digital Hybrid technology to encode the audio signal into a 24-bit digital data stream, and then transmits this signal via a proprietary coding method over an analog FM UHF carrier.

Modulation Sciences demonstrated MSI-1010:SpiderVision with a disc that had several different audio compatibility problems. SpiderVision provides a visualization of Pro Logic surround sound to ensure compatibility.

Pixel Instruments demonstrated its new LipTracker technology that analyzes the audio content for distinctive sounds and silence—called Audio Mutual Events or MuEvs. It extracts the speaker's mouth characteristics from the video content—the Video MuEvs. The Audio and Video MuEvs are then analyzed for maximum correlation to determine the amount of AV offset in the source material.

PrismSound demonstrated the dScope III analog and digital audio test set. The dScope signal generator has two independent channels, and generates in the analog and digital domains simultaneously. In the signal analyzer, two-channel level, frequency and phase measurements are continuously available from either domain, as well as a two-channel continuous-time measurement function and up to 40 two-channel FFT-derived measurements.



Steve Nunney of Hamlet poses with the new 292WVA HD-SDI LCD scope.

RTW demonstrated the 30900 Surround Monitor processor, 30010 remote display, and 30050 remote control, in all, a system for monitoring and setting up surround sound loudspeaker systems.

Sencore aded to its SoundPro line with the launch of the Digital Audio Toolbox, which anaiyzes any stereo digital audio signal and generates low-noise digital test signals, at up to 24-bit/96k-sample rate resolution. The unit features a transparency test, bit-stream analyzer, lock test, bit-scope, latency test, digital watchdog, jitter meter, clock/sample counter, and distortion meter.

Television Systems Limited (TSL) showed a comprehensive selection from its recently upgraded range of audio monitoring products that feature self-legendable buttons and a new style finish.

Several new audio monitoring products were introduced in the **Ward-Beck** booth, including the AMS8-1, a compact 1RU aural and visual monitor designed to handle multichannel format audio signals. The AMS8-2 has the same features, but offers eight expanded PPM/VU LED bar graphs in a 2RU configuration. In addition, the company launched the RLM24 Multiple Digital Audio Meter System. The RLM24 accepts 24 balanced (110 Ohm) AES/EBU digital audio signal inputs via 3-pin pluggable screw terminations located on the rear panel.

Wohler Technologies introduced the VAMP2-S8MDA HD-SDI, SD-SDI and composite video monitor and converter. The 2RU device monitors eight channel analog, AES/EBU, or embedded audio with eight 26-segment high resolution tri-color LED level meters showing VU and PPM simultaneously. Any of the eight channels can be selected independently and sent to the two-channel speaker system, headphone output, and phase indicator.

VIDEO

Astro Systems showed its various LCD waveform monitors including the WM-3004A-M, WM-3006, and WM-3007.

DK Technologies introduced an upgrade for the PM5639/94 probe, a USB interface LCD color probe with new Windows software that allows storing measurements for use as a degrade reference and for seeing and adjusting the current color temperature.

Hamlet demonstrated the HD and SD Flexiscope, a palm-top waveform monitor/vectorscope analyzer. Also shown were the Protean Axion 292AX handheld HD signal generator, the Protean Index, an SD and composite variant, the LCD Scope 292WVA, and Vidscope—a software analysis plug-in for PC platforms.

Leader Instruments launched a new series of professional video monitoring products—the LV 7700 HD/SD-SDI and the LV 7720 SD-SDI rasterizers. Compatible with 17 SD and HD standards, the LV 7700 provides for two auto-sensing SD/HD inputs. TheLV 7720 only provides for SD inputs. Displays include waveform, vector, picture, audio, status, data analysis and error reporting.

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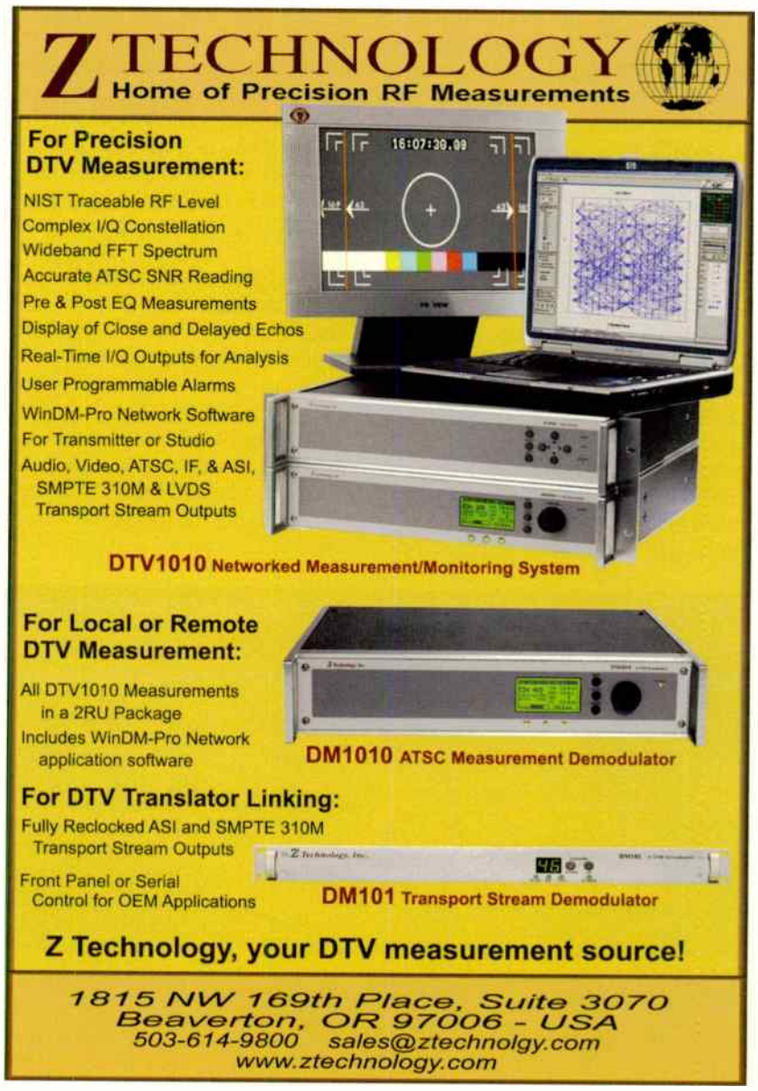

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Test

CONTINUED FROM PAGE 115

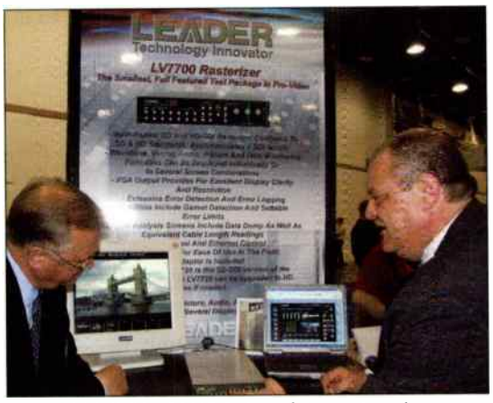
Leader also premiered a new Dual Link option, OP77, for the LV 5700A Multi-SDI Monitor that adds compliance to HD-SDI Dual Link formats as per SMPTE 372M. OP77 provides separate, dedicated A and B inputs (with reclocked outputs) for Dual Link monitoring on the LV 5700A, leaving the standard built-in SD/HD-SDI inputs available for traditional SDI monitoring.

Leader also introduced the FS3019 signal monitoring system that allows up to 50 Leader LV5700, LV5700A and LV5750 multi-standard SDI monitors and LT292 SDI line analyzers to be connected to an FS3019-equipped PC, enabling local or remote studio installations to be monitored continuously on a single display screen.

Videotek, a division of Leitch, debuted the TVM-950HD multi-format, HD SDI monitor with integral, high resolution color LCD display in a half-rack package. Displays include waveform, vector, gamut, audio, picture, timing and data analysis, in quadrant or full-screen views. Advanced audio analysis includes CineSound surround display and Dolby decoding.

Magni launched the HDM-292 lower-cost HD-SDI/SD-SDI monitor that features simulated CRT display and Adaptive Graticule technologies. Display modes include waveform, vector, picture, and audio in full screen or split-screen.

OmniTek demonstrated the OmniView XR multi-format eXtreme resolution waveform monitor. Features include 256 times oversampling filters with 18-bit precision, real-time waveforms up to 1024 pixels high, new waveform generation algorithms, continuously variable H and V magnification with no loss of resolution, and user-selectable waveform display and analysis areas. OmniTek also showed the PQA picture quality analysis workstation that compares two live SDI video inputs in real-time, compares a live video input with a stored video sequence, and other functions such picture freeze, black and monochrome detection, widescreen signalling and video index detection, real-time PSNR calculation, noise-compensated picture difference analysis, macroblock artifact analysis, and more.



John Riddell (L) of RHC & Associates gets a demonstration of the Leader LV7700 Multi SDI Rasterizer from George Gonos (R).

Tektronix demonstrated upgrades for its WVR7100 Rasterizer including the addition of Dolby E and Dolby Digital (AC-3). With the audio option, the instrument also can display audio bars, Lissajous, surround sound, and Dolby Audio metadata (Dolby Digital/Dolby E option only) displays.

Tektronix also announced the availability of the WVR6100 SD Rasterizer base unit. The WVR6100 provides the same capabilities and reliability found in the WVR600 Series Rasterizers including the simplified user interface and FlexVu display with added capabilities for Closed Caption Decode and Display, Safe Action/Safe Title graticules, optimized Dolby Digital and Dolby E capabilities and remote front panel.

SIGNAL GENERATORS, TEST CHARTS

Astro Systems showed the SG-7802A HD SDI test generator with 13 types of standard test patterns and three types of natural picture images.

DK Technologies displayed a new HD sync and pattern generator option for the PT5300 that will support all tri-level sync formats and be backward-compatible with SDI, 270M, and analog options.

Doremi Labs launched its HDG-10 portable HD/SD video test generator. The HDG-10 provides 15 still patterns and seven moving test patterns in SD and HD formats at full broadcast quality.

DSC Labs demonstrated the new Toni Chart camera alignment tool with 12 grayscale chips to help align knee and toe circuits. The chart also includes six closely spaced light chips and six similarly spaced dark chips including 3-D CaviBlack.

ESE introduced several new products including ES-185U/NTP time code generator and NTP server, ES-461U microprocessor-based pre-settable SMPTE time code generator with jam sync, and the ES-488U SMPTE time code generator/reader/inserter. The ES-488U is a microprocessor-based unit that generates, reads and video inserts drop frame or non-drop frame SMPTE time code and can read SMPTE, EBU, or film time codes at 1/30 to 30 times play speed. The ES-185U/NTP offers an NTP (Network Time Protocol) output that allows for network time synchronization, and uses an on-board 12-channel GPS receiver.

Horita launched the ADQ-50 audio/video cue generator that provides cue prompts for ADR or Foley. The ADQ-50 overlays a thin white vertical line that sweeps across the screen from left to right. While the line is doing this, an audio cue pattern is generated. When the line reaches the rightmost side of the screen, it disappears and a square box is flashed for a few frames in the center of the screen, signaling the start of an audio event.

Leader Instruments unveiled the LG 3803, a new 8-VSB/QAM signal generator specifically designed for testing STBs and integrated digital tuner devices. Built into the instrument are a pseudo-random (PN) generator and a BER counter.

OmniTek introduced the OmniGen Dual-Link digital test pattern generator to support the creation and display of real-time 4:4:4 HDTV and digital cinema images.

Sigma Electronics debuted the TSG490 sync and test pattern generator. Initially supplied as analog, the unit can be upgraded to include SD and HD test patterns and black, AES tone, wordclock, and embedded tone.

The company also introduced the Arbalest video/audio synchronizer that provides automatic detection and compensation for any delays incurred between a video signal and a corresponding audio signal, with a maximum skew of +5 seconds. The complete system consists of a pre-processor unit at the transmission point of origin and a post-processor at the reception point.

Wohler announced that the Penpal-HD portable HD signal generator is now shipping. At six inches in length and weighing less than six ounces, the Penpal-HD offers a range of 32 video test patterns in 18 HD standards, each of which can be combined with different tone settings. Its capabilities include three moving test patterns, pathologicals, and four stereo pairs of AES/EBU audio embedded in the HD-SDI signal.

DNF Controls introduced a data logging option for The Analyst RS422/RS232 tester that captures serial communication into a non-volatile log file for review and analysis.

MPEG

Acterna added new capabilities to its DTS-330 and DTS-200 MPEG measurement platforms. For the DTS-330, Acterna introduced a satellite interface that includes 8PSK (turbo-code), QPSK (turbo-code), QPSK (DVB), and QPSK (Digicipher II) modulation support. The interface allows users to control the satellite antenna either via a 22-kHz tone or by using the DiSEqC standards, to perform MPEG transport analysis and monitoring at either an L-Band or 70-MHz I/F interface point, and to perform rudimentary RF analysis of the satellite signal.

For both the DTS-330 and DTS-200, Acterna added real-time MPEG-4 analysis capability to existing MPEG-2, DVB, and ATSC measurements. COFDM and 8-VSB interfaces also have been added to

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STUDER

Vista 8 Digital Audio Console

You're live, totally in control...

The Studer Vista 8 with its unique, world-leading Vistonics® user interface ensures fast, intuitive console operation – the key to trouble free broadcasts.

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World Radio History

CABLE, FIBER & NETWORKS

BY DEBORAH D. MCADAMS

Coax still carries the bulk of audio and video ricocheting around the world, but the terms "hybrid" and "fiber" popped up quite a bit on the massive exhibit floor of NAB2005.

FIBER

In keeping with the serpent theme, **Telecast Fiber Systems** debuted the Rattler, a USB-powered mini-HD-SDI transceiver that takes coax inputs and does uncompressed output over fiber. Telecast also demonstrated a live atmospheric fiber-optic link dubbed "Kermit," (snakes eat frogs), and unveiled the Teleport CWDM multiplexer capable of taking up to eight 2.5 Gbps digital signals and running them up to 30 km over a single fiber.

Canare Corp. of America brought the Optic Links CWDM eight-channel bi-directional, 1RU multiplexer/demultiplexor, which can send up to eight signals over one fiber. Canare also unveiled a handheld, battery-powered hybrid-fiber cable checker.

Network Electronics demonstrated a new 2RU, fan-free 25 W CWDM system for multiplexing up to 16 channels onto a single fiber, and the MR-TR-2.5G multirate optical O/E-E/O converter and O/O transponder in one unit.

DAWNco featured the 95F12 transmit/receive FiberLink system using single-mode fiber to a dish located far from the receive facility.

Opticomm rolled out the OptiLinx optical switching platform with up to 144 ports, and displayed the DVI-1000 extender for DVI transmission over multimode fiber up to 1,000 m. and other fiber-link products.

Evertz unveiled the 7707ADVT and 7707ADVR—single-card, dual-analog or SDI-video with four-channel analog or AES audio fiber-optic transmitters/ receivers.

Communications Specialties displayed drop-and-repeat receivers and multi-output transmitters for hi-res RGB and stereo audio fiber systems.

Crystal Vision unveiled the FRX202 dual fiber-optic-to-SDI transmitter, and the correlating receiver, the FTX204.

Vistek Electronics debuted the V6757, a modular product for transmitting composite analog video within an SDI data space where it can pass through SDI equipment and over fiber in composite form.

Gepco International brought HDC120P—Kevlar-reinforced, 12 mm hybrid fiber-optic camera-to-CCU cable designed with HD live events in mind.

Multidyne Video debuted products for the fiber-optic transport of up to 110 VSB/AM CATV channels. Multidyne also brought the RGB-5000; the DVI-3000 and DVI-200 fiber-optic transport links with extension cables; the MHD-1500 series of SD/HD-SDI fiber-optic links; and the DTM-2200 multiplexer for transmitting eight phone lines over a fiber.

Radiant Communications showed an MPEG-2-to-IP, fiber-optic baseband A/V-plus-DVG/ASI one-fiber transport system, as well as fiber-optic L-band and 80-channel transmitters and receivers, and fiber-optic universal Ethernet transceivers.

Mohawk, a division of Belden, rolled out three-circuit stadium cable containing Corning SMF-28e fiber.

Stratos Lightwave demonstrated a BNC-to-fiber video media converter.

Berne Gebs (R) of Belden selects a cable sample for John Duncan of KSTS (L).

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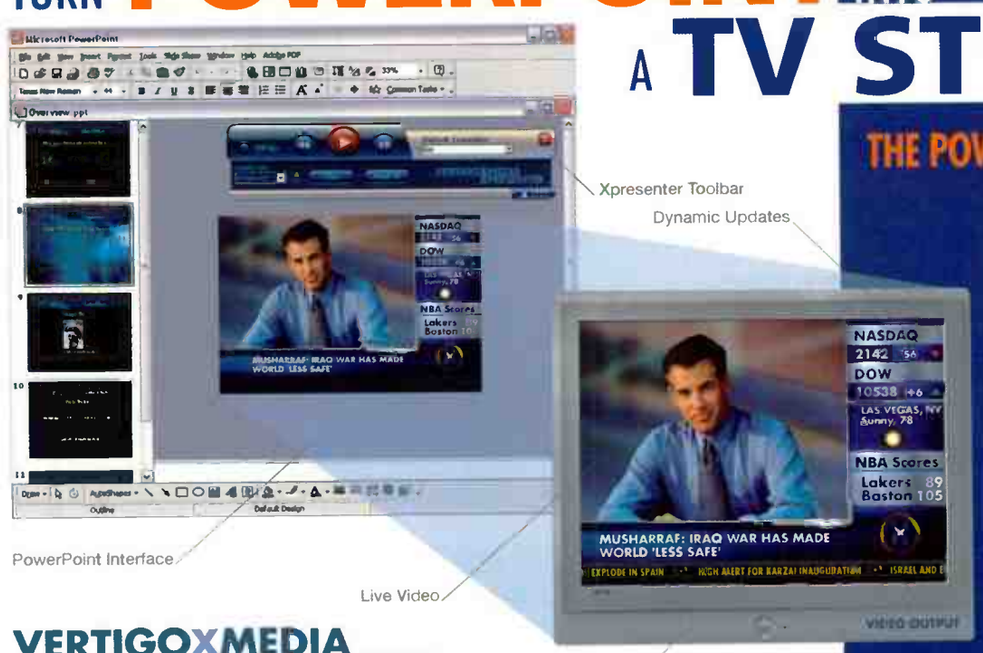

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World Radio History

CABLES

Belden CDT introduced the Banana Peel, a 75-ohm analog cable configured around a center spline so that individual color-coded coaxes can be "peeled" off and affixed to separate terminals. Belden also brought single and dual plenum version of its 9451 analog line-level audio cable; and four-pair 24 AWG CAT-5 audio cable. Brilliance CatSnake, a new rugged four-pair, 24

Shane Collins (L) and Javier Juarez (R) make a connection using 26-pin multicore camera cable in the Clark booth.

AWG, CAT-5, 256-channel audio cable that was set to debut, remained under development at showtime.

Belden also debuted the 10GX, a 10 GB Ethernet cabling, connector and terminator system.

Gepco International introduced skinny but rugged HD coax in the form of VDM260, a double-jacketed CT504HD heavy-duty tactical CAT-5e cable intended for use with Neutrik EtherCon connectors, but also available as pre-terminated cable assemblies. Extra-flexible VHD2000M cable for hi-def patching was also featured at the Gepco booth.

Liberty Wire & Cable brought along 20 AWG/RG59 type serial digital siamese video cable; 25 AWG single, siamese or triamese mini precision video cable; the ConnecTec coax and Ezlinx termination systems.

Clark Wire & Cable introduced 26-pin multicore CCU/VTR camera cables.

Grass Valley took the wraps off a new Grass Valley Digital Triax system and the DigiLink transmission system, both dockable with the LDK300, 400 and 500 cameras.

Tec Nec Distributors added Sony equivalent CCZAD100 camera-to-CCU cables and Phatcat broadcast video-over-Cat5 to its inventory.

CONNECTORS

Bittree demonstrated an upgrade to the 489 Series Programmable audio patchbay that now allows users to program switched grounds, in addition to bussed, isolated and looped grounds offered on previous versions. The company also introduced a new patchbay for exclusive use with Riedel's Artist Digital Matrix Intercoms.

Fischer Connectors introduced the 1053 Series, SMPTE-compliant HDTV camera connectors with field installable fiber-optic contacts, and featured Broadcast Triax connectors for American standard broadcast cameras.

BTX brought the new CD-HD15MEZ and the CD-HD15FEZ, which both accept standard D-sub hoods and provide the ability to field-terminate a HD15 cable mount with a screwdriver. BTX also demonstrated its patent-pending SnakeJet HD multi-channel video interconnect system, and unveiled XLR, a 3-pin panel mount with screw terminal connections manufactured by Neutrik.

Neutrik brought out the NC**XX series of 1/4-inch phone plugs, available in three to seven pole configurations.

Gefen debuted its FireWire Repeater 800, capable of IEEE-1394 transmissions up to 33 feet at sustained transfer rates up to 800 Mbps; additional repeaters can be daisy-chained for a 250-foot reach.

Pleora Technologies showcased the PL1453A EtherCast Engine, which takes SD-SDI and/or DVB-ASI data and converts it to IP packets for Gigabit Ethernet or LAN 1 Gbps transfer.

Switchcraft brought its EZ Norm audio patchbays for digital audio workstations, plus its expanded line of EH Series connectors, which now include USB, FireWire, 3.5-mm stereo jacks and S-video in the same XLR panel cut-out.

Canare Corp. of America unveiled a 32-across staggered patchbay with more connections in less (1RU) space, plus the FC Series of HFO camera connectors with removable alignment sleeves for easier cleaning. Canare also brought the EE100 digital repeater for increasing transmission over standard coax to 340 m.

Kramer Electronics unveiled the TP-300FW range extender for FireWire transmissions over unshielded CAT-5 cable.

Trompeter came to NAB2005 with enhanced J314 Series dual patchjacks for broadcast and production, and M-BNC Series miniature BNC 75 ohm connectors.

Sealevel Systems unveiled the SeaI/O-462 and the SeaI/O-463 I/O modules, the first of which addressed 96 channels as a dozen 8-bit in or out ports, the second with dual DB-78 female connectors and a six-foot cable that terminates each DB-78 to two industry standard 50-pin IDC connectors.

ADC launched Pro Patch High-Density Coax for AES, the HDC series panel; MUSA video panels; ProAx D- and J-Series triax connectors; programmable Longframe audio patch panel; Pro Patch optical fiber transport system; and the ICON I-W modular system that allows a mix of connector formats.

NETWORKING

Opvision Technology rolled out the OPV2300/2400 broadcast transport system for transmission of two channels of analog video and four channels of audio; the OPV2500/2520/2600, with capacity for two additional datastreams, and the OPV 3100/3200, which does multiple channels of analog video, audio and data over one fiber pair.

From **Exavio**—the ExaMax 9000 Network Platform debuted with 36 2-GB fiber-channel ports provides 5-GBps access to networked storage.

(L to R) David Mecklenburger, Rick Thompson and Dave McCarthy of Gepco have some fun in the company booth.

Harris Networking and Government Solutions released new HD capabilities for the NetVX integrated high-speed networking platform.

Telestream showcased MAP Media Collaboration, which allows distributed workgroups to access media files across LANs and WANs.

Grass Valley unveiled NetCentral 4.1 software for monitoring and diagnostics, and augmentation of the eXtensible Management System used to manage contribute and distribution networks.

Among its line of content delivery products, **C-COR** introduced the Multi-Service Packet Switch (MPS), an L2-based 10-GB packet ring system for IP Ethernet transport; the PLEXiS BXE CPE device for long-reach optical local connections; and a single-channel SDI card for the company's DV6000 digital transport systems. ■

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World Radio History

AUDIO

By Mary C. Gruszka

Whether large or small for studio or field, for live broadcast or post-production, there were plenty of audio consoles and mixers to choose from at NAB2005.

LARGER CONSOLES

Calrec rolled out the System Plus upgrades for the Alpha, Sigma and Zeta consoles that are now standard and include expanded monitoring options, SNMP networking, input delay, a flexible color TFT metering system and 5.1 source input handling. The latter processes 5.1 sources as single inputs while allowing for individual adjustments. The TFT system provides operator configuration of layout, size and color.

Calrec demonstrated the interconnection of these three consoles via the Hydra network for sharing I/O resources and control data.

Digidesign introduced the ICON D-Command console that includes dedicated EQ and dynamics editing sections, custom fader modes and touch-sensitive rotary controls.

Euphonix announced that all of its digital audio mixing systems based on the SH612 router, such as the 5-B, MaxAir and 5-P, can now be controlled by most router control systems that use the ES-Switch protocol.

Euphonix and SAN solutions collaborated on an integrated A/V server system geared for audio workflows, based on the Hitachi Data Systems Thunder 9500V series modular-storage systems.

Harrison premiered the Trion console, which can be configured as a post-production, live performance or broadcast console. Controls and assignments for each channel are fully accessible as traditional, vertically arranged strips or in an enhanced version expanded across eight channels for a knob-per-function control.

(L to R) Martin Stahl of Euphonix answers questions on the company's System 5-MC audio mixer from John and Nancy Ross of DSP.

InnovaSON showcased the compact, lightweight, digital mixing console, Sy48. As a standalone console, the Sy48 may be equipped with up to six eight-channel audio cards and is typically configured with 48 local inputs (32 mic, 16 line) and 32 local outputs (16 processed, 16 line). The optional Stage Box can move 48 inputs to stage while keeping 16 local line inputs available at the console location.

Lawo discussed new sales for its mc²82 and mc²66 audio production consoles.

Logitek debuted the Mosaic series of router-based digital audio consoles. Mosaic consoles are based on a series of drop-in modules allowing a variety of configurations. Faders can range from four to 24, and several control and softkey modules are also available.

Logitek also introduced vScreen, a PC application for its Console Router systems. vScreen allows users to design custom operator interfaces consisting of faders, meters, buttons, and graphics. The company also demonstrated its vMix Virtual Mixer Software for the PC. This software allows a computer to control the Logitek Digital Audio Engine without using any other control surface or to duplicate another control surface while occupying very little space.

Prophet Systems developed a remote-control interface between the Logitek Console Router System and the Prophet NexGen system so that any NexGen server can send commands to route any audio source on any Logitek Audio Engine via one TCP/IP connection.

Otari rolled out several digital on-air consoles and one for video editing. The DB-32 has 24 input faders, output routing, an emergency circuit, free arrangement of the control surface, and optional mLAN audio network card. All digital I/Os have sample rate converters as standard. The internal memory can hold up to 50 snapshots and 20 projects.

The Otari DB-16P is designed for video editing through ESAM II protocol. Each channel has a compressor, delay, three-band EQ, high-pass filter, and channel parameters can be copied to other channels and saved as snapshots.

Solid State Logic (SSL) launched new software for its C100 and C200 digital broadcast consoles. Version 2 for the C100 includes TouchPan for 5.1 panning access from the central touchscreen, new channel TFT graphics and new I/O expansion for the Centauri core that doubles mic capacity.

Version 3 for the C200 includes a DAW control option, new snapshot system, an enhanced monitor matrix for independent adjustment of gain for individual return channels and additional aux flexibility.

Stagetec demonstrated the Aurus, a direct-access console for live applications where functions are controlled on the channel strip. TFT color screens display various meter modes, the graphical audio parameter view, and console configuration.

Studer showed the latest release (V3.5) of the core software for its Digital Vista Series and D950 consoles. Version 3.5 includes the new Cuelist facility, which allows a series of cues to be listed and sorted, fast editing of snapshots and the ability to overwrite or trim individual console parameters on multiple snapshots.

Tascam exhibited the new DM-3200 48-channel digital console. Based on the DM-24 in operation, the DM-3200 adds busses, effects, aux feeds, USB connectivity and many other new features. Its user interface includes 16 rotary encoders with LED indicators to display mixer settings at a glance. Up to 6.1 surround panning is available.

Wheatstone introduced Generation Six (G-6) networkable control surface that interfaces to the company's Bridge digital audio router. Features include Ethernet protocol, VDIP configuration, X-Y controllers, eight-character controller displays, additional aux sends and preset options.

Wheatstone also released a new central switch for all Bridge routing systems that offer 48 ports with each supporting 128 channels of audio I/O plus control data.

Yamaha Commercial Audio previewed the PM1DV2, the new version

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MICROPHONES

PRODUCT REVIEW

BY MARY C. GRUSZKA

In all too many productions, microphones are meant to be heard but not seen. That challenge has resulted in some very tiny lavalier and head-worn microphones, with surprisngly good sound quality and durability. Even wireless systems are getting smaller; just look at some of the lower body packs. Of course, it's not practical nor desirable to miniaturize every kind of mic, but even shotgun mics are getting smaller while retaining their needed directional characteristics. No matter what type of mic you were looking for, companies rolled out newer improved models at NAB2005.

Dale Rood (L) of Four Directions Productions gets a presentation on the Audio-Technica AT2020 mic from Steve Savanyu (R).

AKG featured the new CCS microphone series of dynamic mics—D 88 S supercardioid, D 77 S cardioid for backing vocals, guitar, wind instruments, D 55 S cardioid with permanently attached cable with mini jack and 1/4-inch adapter, D 44 S cardioid for speech, D 11 XLR cardioid for kick drum and other bass-heavy instruments, and D 22 XLR cardioid for toms, percussion, wind instruments and guitar amps.

Audio-Technica showed the AT892 MicroSet subminiature omni condenser headworn mic that features an ergonomic under-ear design for comfort and secure placement.

Audio-Technica also featured the AT2020 cardioid condenser mic that contains a custom-engineered low-mass diaphragm for extended frequency response and high SPLs.

beyerdynamic introduced the camera mounting MCE 86 II shotgun, which uses an electrostatic transducer element with integrated active filter and produces a hypercardioid/lobe polar pattern.

Also new was the M 99 dynamic, which employs beyerdynamic's TG-X technology and incorporates a strong neodymium magnet and mass reduced special Mylar diaphragm.

The rugged M 58 is designed for ENG applications and the MCE 72 is a compact mic useful for X-Y stereo recording. It consists of two mic capsules that are mounted 60 degrees to the mix axis and can handle SPLs up to 123 dB. Also shown were the DT 108 (single muff) and DT 109 (dual muff) headsets with dynamic mics.

DPA Microphones highlighted three of its microphones at NAB2005—the DPA 4088, 4066, and 4071. The 4066 is an omni headband mic that can handle sound pressure levels up to 144 dB before clipping. The 4088 is a cardioid headband mic with a headband mount as the 4066, but with a boom that is 3 cm longer for placing the mic at the corner of the mouth. The DPA 4071 miniature omni mic incorporates an acoustical low-cut filter to deliver larger headroom.

Electro-Voice (EV) showed a number of mics in its new Blue Series series. The Cardinal cardioid condenser microphone features a class-A discrete low noise amplifier. The Raven is a dyamic mic designed for high-SPL sources.

The Holophone-MINI surround sound microphone was used in a demonstration by SRS Labs with Pocket PME with Circle Surround encoding.

Neumann debuted the BCM 705, the first dynamic mic produced by the company. It uses a Neumann-redesigned version of the Profi Power Sennheiser MD 431 handheld stage microphone and capsule and is housed in the same body as the previously introduced BCM 104. Neumann also launched the BCM 104 with a K 104 large-diaphragm condenser capsule for a cardioid directional pattern with switchable proximity effect compensation, and a high-pass filter that reduces frequencies below 100Hz by 12dB/octave.

Sanken demonstrated the new miniature COS-22 dual capsule lavalier microphone designed for stereo and boundary-style micing. The company also showed its complete line of dynamic mics for TV including the VoiceCaster 5CL vocal mic.

Sennheiser Electronics Corp. featured the Evolution 900 Series of microphones, comprised of seven new backline mics, plus the three previously introduced 900 Series models, the cardioid 935, super-cardioid 945 and the 903 instrumental mics. The Evolution 901 is an electret condenser boundary mic for kick drums and grand piano. The dynamic, cardioid Evolution 902 offers higher resonant frequency (65Hz) and a shock-mounted capsule with integrated clip mouth. The dynamic cardioid

MICROPHONES, PAGE 150

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EDITING

BY JAY ANKENEY

There were fireworks on and off the floor at this year's NAB. Just as people were absorbing the implications of Avid's pre-show announced intention to purchase Pinnacle for approximately $462 million, Adobe Systems announced a definitive agreement to acquire Macromedia for $3.4 billion, while Discreet announced it was "transitioning its branding" to the Autodesk name. Meanwhile, HDV technology was all over the halls with new cameras and edit systems. As always, post production was the star of the show.

1 Beyond brought out its Harmony HD/RT SAN that the company has developed with Sanbolic and StorageTek 4 GB Fibre Channel storage area network capable of supporting multiple streams of real-time uncompressed HD and support for 2K. The company also announced that the Tarari encoder accelerator for Windows Media will be incorporated into its high-end workstations and servers.

The Axial/MX from Accom received new Version 5.3.4 software that can now present four live streams of HD for multicam editing along with eight channels of audio, a 24p option and the ShowCase software module empowering roll-through auto assembly with a RAVE-capable Accom DDR. The company also rolled out its new ProServMX.8 server using JPEG 2000 A/V boards for simultaneous record/playback of eight channels of SD or four channels of HD.

Apple released Final Cut Pro Studio to accompany its new OS X version 10.4, code-named "Tiger." At the heart of Final Cut Studio is QuickTime 7 supporting the new H.264 codec, the latest MPEG-4 ISO standard, which allows HD material to be processed at SD data rates. Final Cut Studio is centered on Final Cut Pro Version 5 editing software that can now cut HDV material in its native format. Also included is a new IMX codec to directly edit material shot with Sony's XDCAM, as well as a powerful new multicam tool that can cut up to 128 sources with real-time playback of up to 16 angles at a time.

Although Discreet is now part of the Autodesk Media and Entertainment division, at NAB2005 the company's "Greater than One" banner indicated that its legacy post-production products will still bear the venerable Discreet name; this year all of them were given HD capabilities (the company also decided to capitalize on the names of its popular products from now on). The new Smoke 6.7 software running on a PC is now SD- and HD-capable and supports the Final Cut Pro file format. The new Autodesk TV and Autodesk DI suites are dual-licensed turnkey bundles with the former featuring the Flint and Smoke systems on an IBM IntelliStation A Pro 6224 platform and the latter offering Flame and Smoke DI on an IRIX-based SGI Tezro workstation. Autodesk also launched its new Toxik enterprise-level collaborative compositing software for feature-film effects creation.

(L to R) Pam Gill, Frederique Hufenbach, Nick Shilling and Larry Brunaccini handled questions big and small at the busy information desk at the Avid booth.

Avid Technology unleashed the new Avid Symphony Nitris, combining the real-time HD performance of the Nitris DNA (Digital Nonlinear Accelerator) system with the Total Conform capabilities of Media Composer. New Version 2.1 software was shown for Media Composer Adrenaline, giving it support for Sony's XDCAM and Panasonic's P2. Avid DS Nitris was seen with new Version 7.6 software with expanded DPX file-conform features for DI workflows up to 4K, and the Avid Xpress line was boosted with the Avid Xpress Studio HD production suite built around Avid Xpress Pro HD editing software. The company also promised to have native HDV editing capabilities later this year. On the broadcast side, the new Avid iNews Instinct is a new script-based newsroom composition tool enabling journalists and producers to combine text with video to cut news packages and VOs. And the remarkable new Avid DNxchange technology lets a facility encode HD-SDI signals to Avid DNxHD so it can distribute uncompressed HD media within the bandwidth of existing SD infrastructure.

The new EDIUS Pro 3.3 software from Canopus enables HQ batch capture from HDV, advanced color correction and updated audio mixer support. Its new "export to HTML" feature allows editors to print and share clip lists, and its Format Support Modules include MXF (Material eXchange Format) support as well as XDCAM (in DVCAM mode) and Panasonic's P2 and VariCam formats. Canopus also debuted its server-based ProCoder Station Render Farm, a streamlined high-volume encoding system under a single unified management interface.

NEW FACE

Having found success in Asian markets, Beijing-based Dayang International brought its D3-Edit 5000 NLE with proprietary editing software and RedBridge graphics card that can generate 3D composite effects in real time on up to four layers of video. Offering multicam editing support, integrated into the D3-Edit 5000 is a GUI-based 5.1 surround sound audio mixing module supporting 24-bit sampling.

Digital Vision was the first at NAB to tackle editing 4K files in real time with its Nucoda Film Cutter. Used primarily for color correction on digital intermediates, Nucoda Film Cutter requires only a single AMD or Intel workstation using a standard NTFS file system and cuts with SMPTE DPX format frames off a Ciprico MediaVault 4210 hard disk array.

Capable of ingesting, editing, conforming and color correcting 2K files in real time, CLIPSTER from DVS Digital Video can generate a hardware-assisted 4K master at about half speed for DI applications. Already gaining popularity with Hollywood studios, CLIPSTER's new Version 2 can even handle uncompressed 4K video files in 12-bit RGB with primary and secondary color correction.

Editware demonstrated its new Fastrack TT (Time Tailor) user interface in the Prime Image booth. Designed for the Prime Image Time Machine, Fastrack adds real-time manual control, fully automates the entire Time Tailor process and synchronizes source and record devices for simultaneous control. The company also showcased feature and application updates to its Fastrack SE and VS linear and NLE hybrid editing systems.

Targeting the news, sports and feature production markets, Grass Valley rolled out its Aurora suite that integrates ingest, nonlinear editing and playlist management to support everything from browse-quality files to SD and HD. Aurora is based on Grass Valley's digital news production (DNP) platform.

Intended as a mobile field production system, the software-only Incite RP (Remote Producer) from Swiss-based Incite Avexco Corp. takes advantage of powerful multithreaded processors to provide media browsing and cataloging on-location along with fast editing and complex effect compositing through background processing.

The new Version 9.1 of the VelocityHD "format-flexible" HD/SD nonlinear editor from Leitch Technology now supports FireWire import of both 1080i and 720p HDV material, mixing them with other HD formats including VariCam on the timeline. Leitch also showed off its new software-only VelocityX editors sharing the same user interface as its VelocityQ and VelocityHD systems, and for news editors the company brought out its new Velocity XNG for remote locations.

Marking its return to NAB, Lightworks, now under the aegis of Gee Broadcast Systems, debuted its Touch Version 2 software upgrade with new improved video effects, DVEs and keyframeable audio-level mixing capabilities. Also new was Gee Broadcast's Geevs XT range of multiformat video servers empowering Touch 2.0 with a SharkNET shared storage environment.

Intended as a successor to its DigiSuite systems, Matrox Digital Video Solutions unveiled the Matrox Axio family of real-time HD/SD integrated edit systems, coupling Adobe Premiere Pro with PCI-X workstations, a robust storage subsystem, and two layers of uncompressed 10-bit HD video with real-time graphics and 3D DVEs.

(L to R) Lynn Dillard Wright of Alternative Entertainment Productions explains her graphics requirements to Charles Meyer of Wet Cement Productions, who demonstrated the new Matrox Axio HD editing system.

Media 100, now a unit of Optibase announced a software-only version of its Media 100 HD system called Media 100 sw. Sharing the same interface as other Media 100 systems, Media 100 sw can upconvert during capture from SD to HD.

Pinnacle Systems announced Version 6.1 of its Pinnacle Liquid real-time SD/HD edit systems with SmartRT effects. Pinnacle Liquid was one of the

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Storage

CONTINUED FROM PAGE 111

SeaChange International showcased its MediaClient line, a series of standards-based client/server products that operate on an IT infrastructure and leverage the company's MediaLibrary technology, which provides compression and file format independent storage. Features include independent I/O and storage, scalable centralized storage and universal access for a large number of users.

SGI debuted its new Prism visualization platform running a Sony SXRD 4K projector. The platform is designed for digital cinema mastering and digital intermediates. SGI also showed the InfiniteStorage RM610 storage for broadcast, a system that is configurable as an ingest/playout server, a playout SAN or a central repository for NLEs. The company showcased the InfiniteStorage RM660 storage for production as well.

Spencer Technologies demonstrated Newstore-4, a new four-channel news production stillstore /clipstore server that offers two or four channels and is designed specifically for live news production.

Studio Network Solutions launched its globalSAN, a multiplatform Ethernet-based storage area network and globalSAN X-8 and X-16, which offers 2 TB and 4 TB, respectively, of shared SATA storage.

Vela's new Media-Advantage5000 multiformat video server allows operators to customize the server with multiple combinations of ingest and playout options. Features include HD and SD support, real-time multistream encoding or transcoding, and 76 hours of internal storage that is scalable up to 447 hours of RAID 5 storage.

Video Technics came to NAB with a host of solutions, including the Apella HD media server—a scalable, multiformat, multichannel and multiresolution server. Certified with NAS/SAN solutions, the Apella HD server offers 10-bit uncompressed 4:2:2 HD support. The company also launched the Media Exchange Server, a 3RU server that is part of the company's NewsFlow tapeless newsroom solution. Features within Version 3.0 include asset management control via upgraded security options, including user profiles, user/group settings and storage quota options.

Dave Walters (L) of Omneon describes the company's 4012 HD Multiport to Hector Betancourt of Quartz (R).

RECORDING & MEDIA

Doremi Labs introduced the Nugget HD video player, which plays SD and HD MPEG-2 4:2:2: and 4:2:0 files up to 80 Mbps. The company also introduced the ORCA capture station, an HD MPEG-2 record and playback solution capable of compression rates up to 160 Mbps, as well as the JPEG 2000 compressed HD video server.

DVEO unveiled its Stream-Valve II, a transport stream recorder application with Web-oriented management features. The StreamValve II can capture and play back transport streams via any of the DVEO family of DVB SDI cards, and is designed to provide lower-cost disk recording functionality.

New solutions from Fast Forward Video included FieldPro DVR, a mini DVR that measures 5.2 inches by 0.8 inch by 3.7 inches and comes with an internal 2.5-inch hard drive. Powered by an external 12 V power adapter, the FieldPro features video capture and playback at 60 fps. The company also introduced the Mini DVR Pro On-Body DVR, a pocket-sized DVR that offers compact flash media storage and features scalable M-JPEG compression and 720x486 pixel image resolution.

In addition to showing its ProxSys media server, Focus Enhancements showcased its FireStore family of direct-to-edit video recorders. The system was demonstrated with equipment from Canon, JVC, Panasonic, Sony and others as part of video and broadcast workflow solutions. The FireStore DTE recorder supports DV and HD streams via FireWire, allowing users to record digital video directly from a camcorder while in the field.

Grass Valley launched its Venom FlashPak, a solid-state recording system for the Grass Valley Viper FilmStream digital cinematography camera.

Hitachi rolled out a dockable digital recorder called the Z-DR1. Designed for news and field production markets, the new recorder can record up to six hours of DV25 on removable Hitachi 2.5-inch hard discs. Features include a MediaPAC removable drive that can be used on desktop PCs or with an ingest server, digital FireWire and analog I/Os, and up to six hours of recording time per drive. The company's companion MediaPAC drives are available in capacities ranging from 40 to 120 GB per drive. The company also showed its SRN120 network video recording/playback system, a digital audio and video recorder with a TDP/IP network interface. Features include JPEG video record and playback.

JVC unveiled the BR-HD50U videocassette recorder for its ProHD lineup. The new recorder is designed for professional users transitioning from SD to HD, allowing them to transfer both HD and professional DV recordings to and from NLE systems. The BR-HD50U uses a full-size/MiniDV-compatible mechanism that can record up to 276 minutes of video in either SD or HD. In addition, the company introduced the SR-DVM70U, a three-in-one video recorder/player that combines MiniDV, DVD and a DDR with a 160 GB capacity. JVC also partnered with Focus Enhancements to create the FireStore DR-HD100 hard-disk direct-to-edit recorder that records native HD MPEG-2 streams directly from JVC cameras.

Laird Telemedia showcased the CapDiV, a portable DVR that plays and records digital video directly from a DV camera or camcorder onto its hard disk.

Maxell unveiled the DVD-R Plus 16x Series, which offers 4.7 GB of capacity and currently supports 16x write speeds, the DVD-R BQ 16x Series and the MPEG-IMX videocassette.

Also in the Maxell booth was the first NAB demonstration of holographic data storage from InPhase Technologies. Through the use of its polytopic recording method, InPhase has been able to develop a 300 GB disc that will be available in 2006. An entire family of products ranging to 1.6 TB on a single disc are expected to reach the market by 2009.

Panasonic offered several new additions to its lineup of DVCPRO P2 solid-state memory solutions, including the AJ-PCS060, a 1.5-pound portable drive that speeds the transfer of recorded content into a computer, server or nonlinear editing system via a high-speed USB 2.0 interface. A 4 GB P2 card can be transferred by the AJ-PCS060 in about four minutes. Panasonic also announced that it will offer an 8 GB P2 card in the fall that can record 32 minutes in DVCPRO or DV, 20 minutes in 720p/24, 16 minutes in DVCPRO50 and eight minutes in 1080i/60 and 720p/60. The company also showed enhancements to its AJ-SPD850 studio recorder and introduced the Advanced Master Quality professional DV tape series, which offers advancements in regard to dropouts, clogging and still-image playback.

Optical technologies were a key focus for Sony, as the company announced new additions to its XDCAM, including the PDJ-C1080 XDCAM cart system for ingest and storage, the PDW-R1 field recorder and the PDW-D1 drive unit. The company also showcased the recently introduced HDV workflow system, including the HVR-M10U VTR. In addition, Sony displayed newly enhanced versions of its HD VTRs, including the HDW-S280, a half-rack VTR with 24p capability; and the new SRW-5500 HD VTR, which is switchable between the HDCAM and HDCAM SR recording formats and is designed for play-to-air or server ingest operations. Other solutions on display included an enhanced version of the DSR series of DVCAM Master Series studio videotape players/recorders and new HD upconverter boards for that same series. ■

BELAR TVM 230D

BTSC Digital TV Stereo Monitor

The new TVM-230D delivers unprecedented performance by combining DSP demodulation with a new fully digital dbx-TV expander card. The combined use of these technologies reliably delivers 50 dB midband separation and more then 40 dB at 14 KHz, with 85 dB signal-to-noise ratio and <0.1% distortion, surpassing even the toughest broadcast specifications for BTSC transmission.

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World Radio History

Automation

CONTINUED FROM PAGE 113

play included the HeadLine Ingest for the HeadLine newsroom system; G3 Control, a station management system; and TX>Play, a modular automation system for smaller facilities. The company also announced several partner collaborations, including the integration of OmniBus automation systems with the HP broadband and media portfolio, and the ability to control the Miranda Presmaster 2 master control switcher and Imagestore graphics processors via OmniBus' automation solutions.

Victor Sunyul of Just Edit poses with the company's VCN range of television automation products.

Pathfire showcased its DMG News Connect and demonstrated how the system can be integrated into newsroom computer systems, like those from AP and Avid, for better monitoring and control.

Pebble Beach Systems demonstrated its Internet Media Browser tool, which allows broadcasters to review low-res proxies of media content, as well as enhancements to its Anemone and Neptune automation solutions.

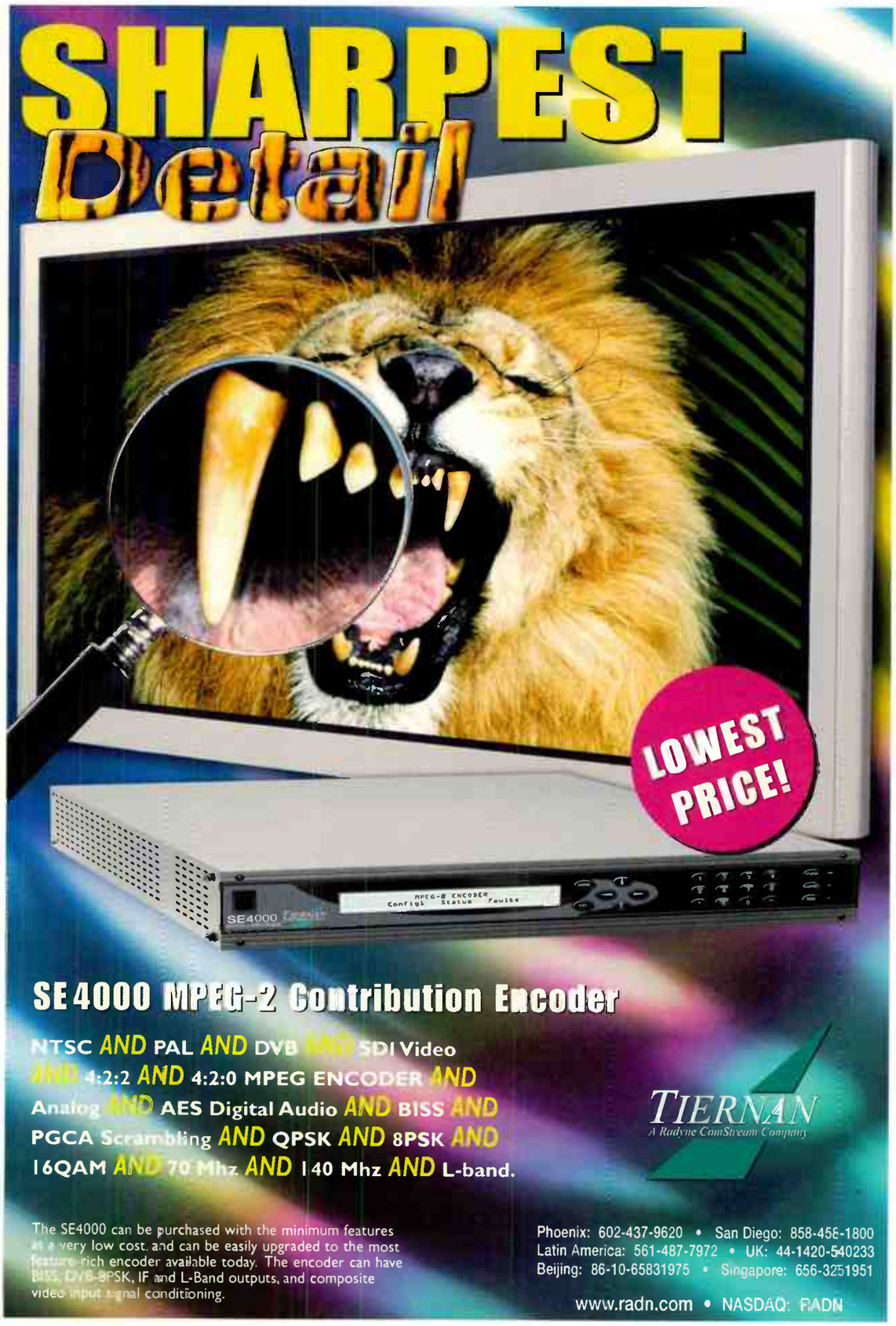
Pro-Bel debuted the next-generation Procion software control platform, which now supports router control, modular product monitoring, media management, automation and master control. A new Procion Web client gives users access to core system functionality through a standard Web browser. The company also showcased Morpheus, the company's next-generation automation system that includes the MediaBall feature, which allows complex sequences of events to be packaged in a way that provides simple presentation to an operator and easier manipulation within a schedule.

Spencer Technologies showcased the Newscaster newsroom system, which allows one individual to run a newscast from a touchscreen GUI and displays the entire rundown, including lower thirds, news clips, on-air camera moves, and cue/play functions for VTR and servers.

Sundance Digital unveiled the newest edition of the FastBreak automation system, which includes FastBreak NXT automation and FastBreak NXT Spot Play. The NXT series is a customizable, automation-centric framework that can run four active playlists simultaneously and now offers enhanced join-in-progress functionality. The company also showcased Sundance's Titan automation system and demonstrated the system's ability to remotely control video server channels that were located at the company's new Dallas-based offices. Sundance also launched a new Digital Delivery Management System that eases the process of bringing content into a broadcast facility.

Telestream showcased a Macintosh-based version of MAPone, a personal IP media delivery software application designed for managing remote newsgathering operations for broadcasters.

Video Technics launched Director 4.1, a software application that facilitates multichannel operation from a networked virtual user interface. The Director connects available Apella server channels for network remote control, allowing users to play, stop and recue events from any Director client. ■



World Radio History

MONITORS

BY LAUREN EVOY DAVIS

Video monitors of all sizes lit up many NAB booths with added features, HD clarity and enhanced viewing angles.

Astro Systems introduced its WM3004 SD six-inch and WM3007 eight-inch LCD waveform/vectorscope monitors. Featuring simultaneous quad and dual display, these portable units accept all HD and SD formats.

The monitors offer two SDI, one component and a loop-out-picture-only, support contrast, chroma, gamma and peaking adjustments.

The next generation of virtual monitor wall systems by **Avitech International** features a new multi-image display with visual alarms and digital clocks. The monitor displays up to 120 inputs on a single display group-composite, SD-SDI and HD-SDI, and it has high-resolution DVI and VGA outputs.

Boland Communications presented a variety of SD and HD monitors in analog and SDI, from its 8.4- to 37-inch models. These monitors, featuring standard and HiBright wide angles, display all aspect ratios.

At the **DataCheck** booth, the company introduced its 31175 17-inch LCD monitor, featuring native resolution of 1,920 x 1,200 pixels; the monitor can show 1080i without interpolation as well.

Also on hand were the HD/SDI LCD displays with dual-link input (4:4:4), DVI input and less than 16 ms response time. The monitor accepts native 1080i input.

DataCheck also launched its new dual 8.4-inch LCD display that works as a form-fit-function replacement for the Sony PVM 8041Q monitor with modular plug-ins for video and audio formats.

(L to R) Sungwoo Lee of KCMUSA listens to Berne Pantaleon describe Panoramadtv monitors at the Wohler booth.

A new 8.4-inch monitor by **ERG Ventures** is designed for the Sony HVR-Z1U and HDR-FX1 HDV camcorders. The HDM-EV85 LCD monitor weighs 3.7 pounds and can accept an analog signal from an HD camcorder.

Ikegami launched its new 9-inch HLM-900 multiformat color monitor. Like the 22-inch HLM-2200 and the 17-inch 1700R, the HLM-900 provides high-contrast ratio and excellent angle of view.

Debuting at the **Image Video** booth was its new rackmount or wall-mount

Lighting

CONTINUED FROM PAGE 106

from tungsten to daylight, and adjust the beam from 12 to 90 degrees. A full-range integrated dimmer enables instant dimming from 0 to 100-percent.

The company also debuted its new LitePanels Infrared LED Light, which has found a home among documentary and reality shooters who want to keep their presence minimal as they videotape their subjects. The small and lightweight unit is dimmable from 0 to 100-percent.

Lowel-Light showed a prototype of a new fluorescent fixture that can be dimmed using a standard dimmer. The size and output of the new light is the same as Lowel's Studio 450 fixture, which is currently available without dimming or with built-in dimmers.

The company also showed the Lowel Ego, a very soft desktop light source.

LTM brought its new Testarossa light series of 6, 12 and 18 kW Par light sources. The company also presented an 18K Prolight, using a Fresnel lens, and its 400 W Torch, an HMI light that can be powered by AC or via a DC battery belt.

Mole-Richardson presented brute strength at NAB when it unveiled its 12,000/19,000 W Daylight Fresnel fixture. It sports a 24-inch fresnel lens and a 16-inch Brytal Alumunim reflector.

Also new from Mole was a 1,200 W Daylite Par, with 10-inch lenses, and a 5,000 W Tungsten Par, with 13-inch lenses.

Tokina Co. brought its MEDALight DMX and manually controlled fluorescent light banks, featuring five models of Spiral Fluorescent fixtures using from one to 16 lamps.

The company's tube-type fixtures come in either DMX or analog control models to match a studio's existing dimmer.

Westcott presented its Spiderlite lamp bases that can be fitted with either tungsten or daylight fluorescent bulbs for illuminating soft boxes. Multiple combinations of the bulbs can be fitted in the same lamp base.

The company also showed a 6-in-1 reflector kit in either a 30-inch, 42-inch or 52-inch size. It includes one and two-stop diffusion panels and slip-covers in silver, sunlight, gold and black.

(L to R) Kevin Crawford and Ed Kuhn of Frezzi Energy Systems have some fun with the company's Full-Spectrum LED Light.

ETC showcased its SineWave Dimmer, offering a quiet dimming module that can be added to existing systems. SineWave dimming can be used to dim ballasted lighting, such as HMIs.

The company also showed its SmartBar, which places the dimmers into the suspended light bar. The SmartBar is DMX standard, and is available with Edison, Stage Pin or Twistlock output connectors.

Sachtler previewed its new wireless studio control system, based on a Pocket PC (PDA). Operating on a wireless LAN (either WLAN or WiFi), the control system features a modular infrastructure, convenient user management and a graphical interface that can operate all motorized Sachtler suspension equipment and the new Pilot automated luminary.

Strand presented its C21 Dimmer System, providing the ability to install 96 2.4 kW Sinewave dimmers in a single rack to greatly increase dimming density for Sinewave users. The system allows users to freely mix dimmers of any type (both Sinewave and conventional modules) within a single rack.

Videssence introduced the S'hooter, a 57 W fixture that features intense light output from a lightweight compact housing as well as the "Shooter Kit" that includes two small fluorescent Shooter fictures and one mini halogen Shadowcaster fixture. The company also showed its Power Key Series P110-255BX, a powerful 110 W compact fluorescent unit with adjustable beam spread of 60, 70 or 90 degrees.

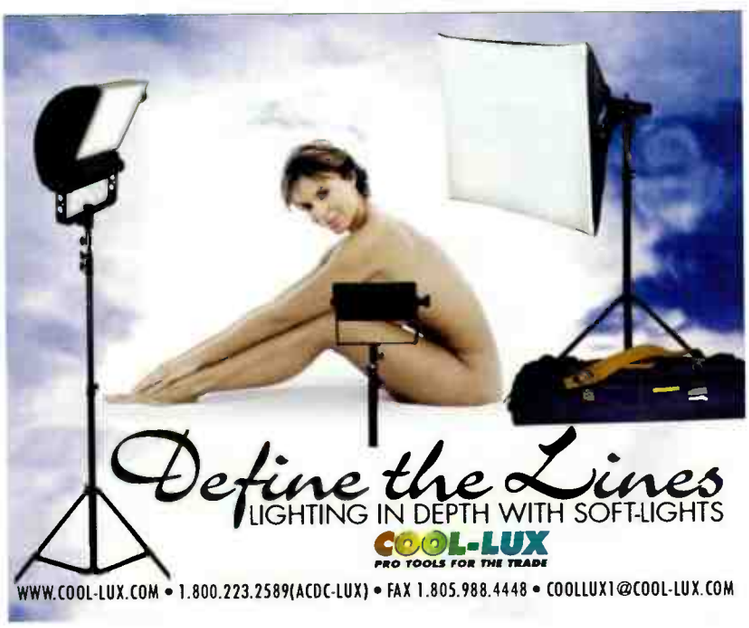
Kupo Co. showed off its D-5000 Fogmate III fog generator, driven by a rechargeable 12 V battery and equipped with built-in microprocessor control. An optional timer or remote controller is also available.

The company also presented its Digi-Fan, a DMX-controllable 3,400RPM fan for quietly generating wind effects.

Matthews Studio Equipment showcased its MAX Production Arm, allowing positioning of back and other lights from seven to 10 feet out on the arm. It folds up for easy transportation and storage.

The company also showed the newly redesigned VATOR II Family of Crank-O-Vator telescoping light stands.

Matthews also introduced the ATTA PIN, designed to insure heavy flags, cutters and scrims stay in place day-in and day-out. ■



World Radio History

17-inch LCD panel. It features a built-in quad-split processor that accepts SDI and analog video outputs with embedded audio metering and under-monitor display (UMD) tally capability.

JVC unveiled its 10-inch HD CRT monitor and its 30-inch LCD HD display. Compatible with 720p, 1080i and other common formats, this slim-line monitor features twin picture and picture-in-picture functions.

JVC also introduced the GD-30L1GU, a 30-inch ultrabright plasma display featuring an anti-glare screen coating with native 1280 x 768 resolution and a 170-degree viewing angle.

Kroma Telecom demonstrated its 10-inch broadcast monitor and its line of 9-, 15- and 18-inch thin-film transistor (TFT) monitors designed for studios, OB vans and other compact spaces. Kroma Telecom also featured its 5-inch TFT screen with three high-resolution screens (960 x 234 pixels). This monitor accepts two PAL/NTSC video inputs.

Marshall Electronics debuted monitors in a variety of sizes, including an HD 23-inch LCD TFT monitor that offers 1,920 x 1,080 resolution and accepts all analog and digital formats. In addition, it connects to HD-SDI/SDI, Y/C and composite video with PAL/NTSC automation recognition.

The Marshall dual-TFT megapixel screen HD 8.4-inch monitor was also shown, and the V-R171P-HD 17-inch daylight bright HD LCD monitor was featured.

Nebtek introduced a new 5-inch 4:3 LCD monitor that accepts NTSC/PAL signals and weighs less than 1 pound. New 15- and 20-inch Nebtek Sharp LCD monitor brackets were also shown.

In addition, the company unveiled its NEB 50 Viewfinder, a 5-inch flat-panel TFT/active matrix format LCD monitor.

Dan Binda of Data Check poses with the company's new 31175 17-inch LCD monitor.

Panoramadtv, the video division of Wohler Technologies, introduced its Daylite Series of LCD video monitors at NAB; they are designed to give clear picture quality in all types of sunlight conditions.

The company also showed an updated version of its RM-2440, now replacing the tally lights for Wohler's LED bargraph-level meters.

In addition, Panoramadtv demonstrated multiformat SD/HD-SDI level meters with video display that shows embedded audio channels on high-resolution bargraphs. The 1 RU VLM versions also offer a 1-inch video display and 2 RU model with a 4-inch display.

Panasonic showed its 32-inch LCD panel. The TH-32LHD7UY is a 1,366 x 768 pixel WXGA-resolution 16:9 LCD screen displaying 16.77 million colors. The panel offers a 170-degree horizontal and vertical viewing angle.

Panasonic also unveiled a broadcast-quality 16:9 HD/SD LCD monitor for studio and field uses. The multiformat monitor offers 1,280 x 768 pixel resolution and displays 1080/24PsF, 1080i, 720p and 480i signals.

Pro-Bel's VX range of crystal display screens, created in partnership with Vutrix, supports composite, Y/C, analog component, SDI, DVI and extended VGA inputs; the HDTV versions also accept HD-SDI.

Additionally, Pro-Bel demonstrated its VX range of 17- and 23-inch widescreen monitors and a 40-inch widescreen TFT display.

The hot products at the **Sony** booth included the new BVM-A series of evaluation-grade CRT monitors designed for viewing multiple image formats in digital cinematography, high-end post production and live production. Sony also showcased five new Luma two-piece LCD models, featuring the company's ChromaTru color processing technology. In addition, Sony showed two 14-inch and two 20-inch SD monitors, which can be rackmounted or wall-mounted with VESA mounts. Also on display were several rackmount multimonitors and the 9-inch LMD-9050 handheld monitor.

Transvideo International introduced its new 5- and 6.5-inch 16:9/4:3 Rainbow II SuperBright monitors. The anamorphic (1:2.35) monitors display images in full, under-scan or broadcast modes and offer a 140-degree viewing angle.

The company also showed its Cinemonitor IIIA Super Bright professional LCD monitor designed for operators and directors. Its backlight systems output 1,200 nits that neutralize sunlight for outdoor shoots. ■

World Radio History

Camera Support

CONTINUED FROM PAGE 114

The Shotoku robotic products are compatible with Vinten and Radamec controllers, pan/tilt heads and pedestals.

Telemetrics brought a new PT-LWP-S3 Weatherproof Pan/Tilt Head to NAB. Designed for a wide range of outdoor broadcast and traffic reporting applications, the unit is completely sealed and includes military-grade sealed connectors and an internal heater.

The company also demonstrated its new TeleGlide Camera Trolley System, designed for fast, smooth and quiet operation, handling heavy loads to accommodate broadcast cameras and lenses. Telemetrics also showed its new CPS-ROP-S Camera Control Software, a scaled down version of its standard studio camera control software.

Frezzi joined the robotic market with its new CAMBOTICS products. The CAMBOTICS Series-700 System includes a robotic pan and tilt head, robotic base and elevation column, and the Series 700 Controller. The controller can address up to 250 cameras or devices, and provides full camera functional control with the Sony DXC-990 camera.

Fujinon introduced a remote pan/tilt system designed specifically for Sony's HDC-X300 half-inch HD camera. When used with Fujinon's EOP-102J-60B four-head controller, it not only aims, zooms and focuses the camera, but remotely controls the camera's black and white balance, shutter speed, gain adjustment and color bars.

Freelancer Ginger Plesha tries out a Sachtler SpeedBalance DV12 fluid pan/tilt head.

Sachtler unveiled its Remo One remote head, designed as the ideal partner for the company's CamCrane EFP. The head weighs 13 pounds, and can handle a payload of up to 35 pounds.

Innovision Optics debuted its Vertical Camera Tracking system, designed to be mounted on a wall to send a camera platform up and down a vertical track. It is capable of five axes of movement that include pan, tilt, lens focus, and zoom, and the unit features 10 pre-settable camera positions. It is available with 10-foot or 16-foot track length, and operates from a touchscreen.

Media 3 Ltd. presented its second-generation BureauCam remote liveshot system, which allows local or remote control of all elements of a liveshot except the talent themselves.

Grizzly Pro brought an economical portable remote control system to the show. It uses a three-system handheld controller reminiscent of a Gameboy game controller, and can control cameras up to 600 feet away.

STABILIZERS

16x9 Inc. introduced the Chrosziel Twister, a balanced, one-piece camera support system for popular lightweight cameras that offers stable and smooth support when shooting from any position. The system takes advantage of this natural ability to balance by distributing the camera's weight between both hands.

World Radio History

The Tiffen Steadicam division showed its new Merlin stabilizer, a handheld unit designed for camcorders from palm-size to the new Sony HDV camera. It incorporates Steadicam inventor Garrett Brown's new Folding-Caliper hinge.

Barbertech Video Products showcased its STEDDIEPOD, a combination handheld camera stabilizer, monopod, tripod, camera body-mount and camera boom. It features a fluid head and can handle mini DV camcorders.

Manfrotto showed its FIG RIG, a lightweight, handheld camera stabilizer in a wheel-shaped design. It supports mini-DV cameras and can have accessories such as zoom controllers, mics, mixers, lights, monitors, arms and other devices mounted on it as well.

VariZoom showed its RunningRig camera stabilizer, designed for cameras from 15 to 25 pounds. The RunningRig features an elevation range of 38 inches and uses a seven-inch widescreen, switchable 16:9/4:3 monitor on an adjustable arm.

Also new from the company is the DV Sportster, which upgrades a handheld stabilizer from VariZoom or a third party into a professional, vest-supported system.

Cinetech presented its HIPCAM, a stabilizer designed to transfer camera weight to the hips to save the operator's arms, neck and back.

Glidecam introduced its Glidecam 2000 Pro, a lightweight, handheld, camcorder stabilizing system designed for any camcorder up to six pounds. The unit's offset handle grip is attached to a free floating, precision Gimbal that allows the hand to move up and down, and side to side, thereby isolating the hand's unwanted motions from the camera.

CRANES & DOLLIES

ABC Products showcased its new MiniCrane 35/520, the company's smallest crane. It has a standard length of just over 11 feet with an extended version reaching nearly 17 feet, and can be shortened for use as a jib-arm. The MiniCrane disassembles to fit in a bag the size of a tripod case.

The company also unveiled its Fast Track, with rails made of a carbon fiber hybrid composition to yield a lightweight, ultra-smooth track that is also stronger than its metal cousins. It features precision joints for smooth connections between sections

Egripment is now delivering its Xtreme T12 telescoping crane, which has been displayed at the last several NABs. The T12 is quiet to operate and features separately programmable dampening at the beginning and end of its telescope range, which extends from 8 feet to nearly 33 feet.

(L to R) Judith Roa and Carlos Cogote both of Congo Films, check out the price of a Cartoni Focus fluid head and DV Mini-Jib from Teo Sandoval of Ste-Man.

In the ATS Communications booth, Boom Audio & Video showed its Cool Cam ProXL camera crane, providing quick setup and tear-down with the ability to move from the ground to 16.5 feet in height. It incorporates a joystick controlled remote pan/tilt head.

Chapman/Leonard Studio Equipment introduced a waterproof telescoping crane that can be operated underwater if desired. The hydraulically operated crane telescopes approximately 16 feet and features auto-leveling.

EX FX showcased a new manual pan/tilt controller, which allows the operator to control the pan and tilt of the camera without resorting to servo drive systems and controllers.

Indie-Dolly Systems presented its Rideable Kit, combining 12 feet of straight track, a rideable dolly, shims and end-protectors. The Indie-Dolly system features dual-width track which can be deployed at either 34-inch track or 17-inch track, with quick conversion between the two.

Industry Advanced Technologies showed its Intel-A-jib dual length jib arm, designed to give a 6-foot or 10-foot reach with a set-up time of two minutes. It can handle camera packages up to 120 pounds and fits standard tripod or dolly mounts.

JL Fisher brought a new dolly accessory cart to the show. The unit is designed to carry the various dolly components when not in use for a particular shot.

Matthews Studio Equipment took the wraps off its Western Dolly, a large but lightweight dolly for both transport and camera mounting.

Microdolly Hollywood combined its own smooth track with a standard ladder to create the Ladder Dolly track. It gains its rigidity from the ladder and smoothness of operation from the Microdolly track.

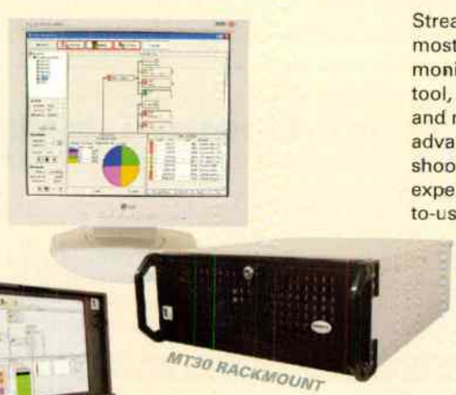
Millennium Crane Systems unveiled its new MovieBird telescoping crane system, capable of moving from a reach of 4.5 feet to 15.5 feet. Its digital electronics allow the operator to program the range of movement with nine digitally controlled speeds as well as smooth movement fades. It also features a digital laser leveling system.

MovieTech took the wraps off its new Sprinter Lightweight Dolly System, allowing steering from either the front or back of the unit. It also allows variability of the platform mounting, allowing for extremely low camera angles.

P+S Technik unveiled its Skater Mini, a table-top dolly capable of carrying camera loads of up to 66 pounds. The unit features calibrated wheel assemblies that allow the user

CAMERA SUPPORT, PAGE 137

How do you ensure DTV quality?



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World Radio History

SATELLITE & REMOTE

BY CLAUDIA KIENZLE

NAB 2005 immersed broadcasters in a sea of advanced solutions for tackling DSNG, ENG, and satellite transmissions, as well as the upcoming 2 GHz Broadcast Auxiliary Service (BAS) relocation.

SATELLITE

Aastra Digital Video demonstrated a fully operational MPEG-2 networking across DVB/ASI, ATM, and Gigabit Ethernet transports using its industry leading Video Runner video networking system.

ABE Elettronica unveiled the DME-1000/SL, a reliable system housing a digital modulator for DVB-S or DVB-DSNG (QPSK, 8PSK, and 16-QAM modulation schemes), up to a maximum of four MPEG-2 encoders and a multiplexer. The equipment, with L-Band synthesized output, can be provided with the power supply and the 10 MHz reference clock for the block-up converter.

Adtec Digital introduced the DTA-3050/3150/3250 Digital Turn Around Media Routers which integrate satellite and terrestrial signals into DVB-ASI and IP services for DTH or IPTV. Also new at the Adtec booth was the adCode, a media-ingest station fulfilling the function of a studio encoder; and the EPG Server, which facilitates interactive program guides or Web pages for delivery via a multicast-enabled switch network.

Broadcast International featured Codecsys IP satellite network solutions and patented multi-codec technology.

The Showman 1000 multi-standard, off-air receiver/demodulator debuted at the **Broadcast Technology** booth. It's designed for transmitter feeds, monitoring, OB reception, and service acquisition. Also unveiled were the DTMD1500 COFDM modulator for transmission applications; the 3200 Series HD MPEG-2 decoder family; the DTAR3000 hot-swappable 8-VSB to ASI demodulator; and DTAD3000 for simultaneous decoding of up to four stereo audio channels from MPEG1, MPEG2, Layer 2 and 3 sources.

BT Broadcast was at NAB2005 touting its global contribution/distribution services for broadcasters, including HDTV services (the company announced a deal to handle NHK's HD feeds from Paris to New York just prior to the show). BT also promoted its BT Mobile Uplink services including its BT Satnet fully automated satellite network.

Conax AS debuted the CAS7 advanced modular conditional access system that allows a DTV operator to start with a basic system supporting pay-TV and then include additional components to support more complex operations and business models.

Crawford Communications showcased its entire fleet of HD-compatible, transportable uplinks, including: 17 Ku-band and five C-Band, all configured with fully redundant electronics, as well as redundant SD encoders. Also featured were Tandberg HD encoders in the fly pack configuration.

DAWNco presented its wide range of satellite antennas, receivers, LNBs, and position controllers to fiber optic broadband links, satellite links and data links.

DVEO, a division of Computer Modules, showed several new products, including: StreamValve II, a second generation transport stream recorder application; PSIP Toolkit for ATSC PCI capture cards; HD-SDI Master, a dual-channel PCI-X bus-based HD-SDI I/O card; next-generation DVB ASI PCI I/O cards with redundancy features, and more.

(L to R) Roberta Lorincz and Bill Coutts are all smiles at the DAWNco booth.

(L to R) Jonathan Garratt of BT Media & Broadcast explains the company's BT Satnet service to John Kirkpatrick and Francisca Avila, both from the People's Forum Network.

Mobile satellite provider **GMPCS Personal Communications** highlighted two Inmarsat broadband products: DVB-RCS and BGAN, which offers high-speed, circuit-switched, and packet data services, plus voice telephony, via a portfolio of small, lightweight user terminals.

Global Security Systems launched GSSNet, a Homeland Security and natural disaster alert system providing secure transmissions of critical messages (with over-the-air addressability using the FM broadcast infrastructure) to cell phones, pagers, PDAs, radios, and new digital satellite radios.

Satellite broadcaster **GlobeCast** launched WING, its global IP-based content management platform that supports delivery of the emerging array of non-linear media. There was a live demonstration of WING Content Exchange for Contribution, the platform's powerful, IP-based video exchange and collaboration tool, to facilitate professional video sharing and laptop newsgathering from any wired or wireless connection.

Satellite service provider **Intelsat** teamed up with **Broadwing Communications** and **HTN** to deliver a new set of services to broadcasters by interconnecting their respective North American fiber distribution networks for greater connectivity to major U.S. sports venues. With this

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move, Intelsat expands its GlobalConnex Terrestrial Media Transport network.

Mackay Communications showcased portable satellite communications equipment and services for Inmarsat, Iridium, Globalstar, Thuraya, Regional BGAN, BGAN, and VSAT, including the new Globalstar satellite telephone that offers voice and data communications in areas where cellular coverage is saturated or unavailable. Mackay also showed the latest offering from **Inmarsat**, the BGAN, a portable, high-speed data modem that offers packet data at 492 KB, with built-in WiFi. Also featured was the newest Nera World-Communicator/M4, a new single panel antenna version of the popular tri-fold antenna model.

Optibase unveiled video contribution and backhaul solutions, including the MGW-1100 multichannel, carrier-grade solution for encoding and transcoding as many as 12 channels of video; the MGW 2000 multi-channel appliance for encoding up to six channels of video; and the MGW 200 single channel appliance for encoding one channel of video. Also shown were receivers and decoders, including the MGW 200 single channel appliance for decoding one channel of video; and the ADI dual-channel appliance for decoding one channel of digital video. Optibase also showcased the Vbox DTA 150 and USB-S 2530, which receives satellite broadcast HD/SD television signals so you can watch TV on your PC.

Patriot Antenna showed its new 2.4-meter offset antenna, modeled after its popular 3.8 and 3-meter antennas. In single or dual-optics, the system has excellent Cross-Pol and Sidelobe Rejection, and the feeds are interchangeable, allowing users to switch between C, Ku, Ka, and X-Bands in seconds.

At NAB, **SES Americom** announced an agreement with Houston-based Crown Castle Mobile Media to enable delivery of live television to mobile handheld devices, such as mobile phones. Crown Castle has leased Ku-band capacity aboard SES Americom's AMC-9 satellite to reach satellite receivers across a planned DVB-H (digital video broadcast—handheld) network. SES AMERICOM also announced that its AMC-5 and AMC-9 Ku-Band satellites will be used to deliver nationwide television coverage of the upcoming space shuttle launch from Cape Canaveral, Florida.

Scopus Network Technologies unveiled the new IRD-2900 IRD for satellite and cable distribution, the E-1720 DSNG encoder, modulator, and L-Band Upconverter; and UE-9000 Universal MPEG encoding platform for dual-channel, real-time encoding, with support for the MPEG-4 Part 10 (H.264) and VC1 formats.

Sure Shot Transmissions introduced its TDR6 modular, high-performance, network IRD providing a high degree of flexibility to meet a variety of SDTV and HDTV applications. Also shown was the new HE-4000 HD encoder from **Radyne ComStream**.

Swe-Dish Satellite Systems showcased its IPT Suitcase, a compact satellite system that allows four Mbps broadband transmission of IP voice and data.

Tandberg Television introduced its EN-5990 MPEG-4 AVC HD encoder for satellite providers striving to attract new customers with an enhanced HDTV channel package. Also unveiled were Tandberg's N2 On-Demand Solutions for advanced, open VOD systems, including dynamic ad insertion and content management and delivery software, and DVB-S2 satellite solutions for 30-percent bandwidth improvements.

MICROWAVE

ABE Elettronica unveiled its new DML series digital links for fixed and mobile digital microwave applications.

Dedicated to providing 2GHz solutions for ENG and portable applica-

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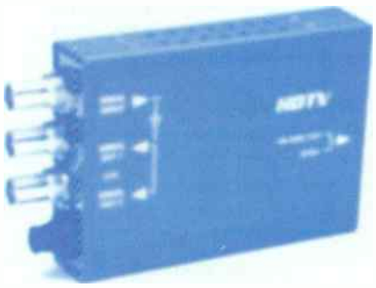
SIGNAL PROCESSING



By Claudia Kienzle

This year's NAB underscored the fact that the key to successful digital broadcasting is efficient compression that optimizes bandwidth while maintaining picture quality. Broadcasters feasted on a wide array of products for transcoding, multiplexing, testing, managing and enhancing all types of video and audio signals, with considerable focus on the Advanced Video Coding (AVC, MPEG-4 Part 10, H.264) and VC1 compression technologies.

ENCODERS & DECODERS

Anystream unveiled Agility 5.0, its digital media production and publishing platform, which includes automated workflow capabilities for HD, MXF, closed captioning and VOD. Anystream and SeaChange International jointly announced Agility VOD, a content production solution that lets content providers efficiently repurpose programming for VOD distribution.

Crystal Vision introduced its EMDEC-200 broadcast embedding decoder, which combines three functions—decoder with synchronizer, tracking audio delay and embedder—on one board for greater cost-efficiency.

The **Envivio** product line expanded with several new encoders for MPEG-4 (and AVC H.264), including the 4Caster Mobile (for real-time encoding of video and audio to mobile phone and television subscribers) and the 4Coder HD system families.

The Enigma data transcoder was unveiled by **Eyeheight**. The device transports metadata and machine control information through an SDI channel for applications such as forwarding camera pan/tilt angle and speed from the point of capture to 3D FX equipment.

In support of the AVC Alliance, **Grass Valley** demonstrated AVC gear that showed how this codec achieves the same quality as MPEG-2 video at less than half the bit-rate.

Harmonic introduced DiviTrackIP, a new closed-loop statistical multiplexing system that supports encoders using MPEG-2, MPEG-4 AVC (H.264) and SMPTE VC1 to optimize compression efficiency and maintain picture quality. Also, using its DiviCom MV 100 encoder, Harmonic demonstrated a headend and customer premises systems based on VC1 to show seamless interoperability with a production ready set-top box. The advanced profile interlace VC1 was carried within an MPEG-2 transport stream multicast over an IP connection.

Harris Corp. announced that HD capability has been added to its NetVX integrated high-speed networking platform, including an MPEG-2 HD encoder, as well as to a Transrating Transport Stream Multiplexer to optimize bandwidth usage while maintaining video quality.

Helissio Technologies demonsstrated its new compact AVC encoders that managed to stream high-definition content at between 1and 2 Mbps.

Inlet Technologies demonstrated its Fathom 2.0, real-time VC1 HD video encoding system, in combination with Sonic's new authoring solutions for HD-based disc formats. Fathom 2.0 combines a hardware-based encoding engine with workflow and analysis software. A Microsoft Windows Media technology, VC1 is one of the selected codecs supported in the upcoming HD DVD and Blu-ray Disc formats, as well as a key component of Microsoft's WVM HD DVD-ROM format.

IPV unveiled a host of professional media products built on VC1 compression technology, including Mariner dual-format encoder for VC1 and MPEG-2.

Ligos debuted its MediaRig Encoder SD system, a low-cost, compact SD MPEG-2 encoding system, with motion estimation and rate control, for high-quality ATSC, DVB and broadband applications.

Along with teaming with Motorola, **Modulus Video** announced its Video Pre-Processing (VPP) option for the ME1000 AVC SD encoder, reducing bandwidth requirements using MPEG-4 AVC.

Optibase demonstrated how AVC can provide DVD-quality video at less than 1.5 Mbps, and is considered promising for full-motion video over cable, satellite and ADSL.

Radyne Comstream introduced its latest Tiernan encoder, the HE4000, a dual program video encoder that can be custom-configured to any encoding requirement. In its minimal configuration, the HE4000 can simultaneously encode one HD and one SD video stream as well as up to four stereo audio pairs.

Scopus Network Technologies announced the availability of the UE-9120 Universal Encoder, an MPEG encoding platform, implementing real-time, dual-channel MPEG-2 encoding and advanced multiplexing capabilities.

Sonic introduced the HD-Series AVC encoder for H.246/AVC HD encoding for next-generation HD-DVD and Blu-ray disc formats.

Sorenson Media announced Sorenson Squeeze 4.1, the newest update to its video encoding and compression product line, which integrates video editing and distribution workflows. The Sorenson Squeeze 4.1 Compression Suite adds the ability to set destinations for compressed video files, include chapter markers for DVD production, and create transport streams for HDV and DVHS, plus the import and encode of Windows Media 9 directly on the Mac.

(L to R) Keith McGuire of Plus 8 Digital hears about Astro Systems SC-2055 scan converter from Abtin Arbabi.

Tandberg Television showcased the EN5990 MPEG-4 AVC HD encoding system and EN5980 Windows Media 9 HD encoder.

Vela introduced the CineView HD Pro, which offers up- and down-conversion, allows users to simulcast SD and HD via SDI and frame-accurately combine SD and HD output via an A/B switch. The encoder also features the Vela PlayAdvantage software GUI, a comprehensive set of video decoding management tools.

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ViewCast Corp. announced Niagara PowerStream Pro—a compact encoder that can stream to any IP-networked device such as PCs, handheld and wireless devices.

DIGITAL PROCESSING

Accom launched AirCleaner, an SD/HD digital video and audio delay system for live broadcasts. AirCleaner accepts SD or HD SDI video signals and up to eight channels of AES/EBU audio with 24-bit resolution at 48 kHz, and it has dual-operator mode for extra security.

Doremi Labs unveiled its HDG-10 portable HD and SD video test generator, which provides 15 still patterns and seven moving test patterns in SD and HD formats, plus outputs audio tone, timecode and closed-caption characters.

ESE announced the ES-185U/NTP (Network Time Protocol) output for network time synchronization, including GPS master clock and timecode generator, and the ES-461U SMPTE timecode generator with jam sync.

For-A introduced the FA-128 14-bit frame synchronizer with digital three-line adaptive comb filter processing for clear, crisp images—in a standalone unit or modular card configuration.

FortelDTV showed its new FS-516 all-in-one A/V synchronizer with SDI and AES outputs, 12-bit analog processing and more.

Grass Valley showcased its expanded line of Gecko signal processing gear with the new Gecko Flex frame, which consolidates multiple audio and video modules into one frame.

Horita demonstrated its TCP-50 timecode processor among other DSP tools.

Kramer Electronics unveiled the new VM-100C 1:10 component video distribution amplifier designed for component video and HDTV systems.

Miranda Technologies launched two affordable HD multi-image display processors: the Kaleido-Alto-HD and Kaleido-Quadro-HD.

Modulation Sciences introduced the msi 4400 8-VSB analyzer with Web-enabled remote monitoring.

Rugged transport was the watchword at the **Network Electronics** booth. The company debuted its Mot-Box, a 3 RU lightweight mobile transport case that houses all flashlink optical transport, signal processing and distribution cards.

Video-over-IP specialist **Path 1 Network Technologies** demonstrated its Vx8000, a multiport, bidirectional IP video gateway for live broadcast applications. The Vx8000 enables broadcasters to deliver real-time, broadcast-quality MPEG-2 and MPEG-4 video in both SD and HD to remote locations over public and private IP networks.

PESA Switching Systems showed the new Cheetah V5 RGBHV encoder, in its family of video transmitter and receiver modules that distribute high-resolution computer video and audio signals over a single coax cable.

RGB Spectrum showcased its MediaWall 2000 video/data wall display processors.

Several new products in the **Telestream** booth focused on its FlipFactory platform. FlipFactory HD automatically monitors and accepts SD and HD media from system folders, converts media to the desired 1080i or 720p HD format, and delivers output HD media and metadata files to destination systems. Flip4Mac is a series of digital media tools that allow Macintosh OS X users to make, edit and play Windows Media from within QuickTime-based media applications.

Finally, Telestream launched "Launch" for both the PC and the Mac at NAB2005. With Launch, journalists drag and drop media files to a desktop icon for flipping and sending in broadcast-quality from field locations to the broadcast station in minutes over any Internet connection, including wireless.

For logo insertion and channel branding in the MPEG domain, **Thales** introduced a program insertion solution that supports various ways of signaling splicing and logo insertion opportunities for an integrated approach to content regionalization.

TSL added the ESP-1 multipurpose interface to its TallyMan product line, for interface to routers, and other production equipment.

TV One introduced the C2-7000 series dual-channel video processor, leveraging proprietary CORIO2 circuitry that encompasses a wide range of capabilities in a single comprehensive platform, including SD and HD scalers, up- and down-converters, aspect ratio converters, luma keyers and chromakeyers, windowing devices and logo inserters.

CONVERTERS

AJA Video Systems announced five new converters to its desktop product line. The HD10AM HD/SDI dual-rate eight-channel AES audio embedder/disembedder with four AES outputs; the HD10AMA HD/SD dual-rate four-channel analog audio embedder/disembedder; the ADA4 four-channel bidirectional AES/EBU audio A/D and D/A; the HDP4 HD- SDI and SDI to DVI-D and audio converter for plasma and LCD monitors; and the D5PSW, a protection switch that accepts two SDI/ASI inputs.

Analog Way introduced its ULTRA VIO, a cross converter for all analog and digital computer or video signals. The three universal A/V inputs of the ULTRA VCO allow any type of interfacing connectors with loop through, now including SDI and HD-SDI.

Astro Systems debuted the SC-2055 Super Scan Converter for HD-SDI, SD-SDI, DVI and analog/component, as well as the Astro SC-2055 multiformat scan converter with integrated super scaling technology.

Brick House Video unleashed its Proteus portable SDI standards converter, with integrated audio delay and synchronization; a 10-bit motion adaptive standards converter and decoder (for SDI composite analog and Y/C I/O), plus a TBC and audio mux/demuxer.

Cobalt Digital introduced the 8022 dual-rate HD-SD up-, down- and cross-converter with advanced de-interlacing, motion compensation and de-embedded audio, as well as the 5821 10-bit downconverter card for HD/SD.

New from **Ensemble Designs** is the 7900 Series, an HD up-, down- and cross-converter with an eight-channel audio option, the latest product in the Avenue signal integration system.

FOCUS Enhancements displayed its FireStore DV File Converter Pro, which adds MXF P2 support for DV, DVCAM and Panasonic's DVCPRO products.

Gefen rolled out new HD-SDI equipment, including an HD-SDI to DVI converter, which converts HD video from SDI sources to DVI displays and vice versa.

Laird introduced the DVBeta Pro Media converter for Digital Betacam users and the inertia 7000HD for converting between HD-SDI, SDI and DV.

Leitch Technology lifted the curtain on its X75HD converter, which combines upconversion, downconversion and crossconversion with a HD framesync.

Also new in the Leitch booth was the NEO XHD series of HDTV converters as well as the Leitch 6800 series modular products including the HMX6800+ multiplexers, the HDX6800+ demultiplexers and the HFS6800+ video frame synchronizer/processor.

Miranda Technologies spotlighted its new Imaging Series, which includes the XVP HD interface modules with an HD downconverter, upconverter and crossconverter, and an HD frame synchronizer and downconverter as well as the QXC-801i HD crossconverter between 1080i and 720p.

nVision introduced the Synapse Modular Broadcast System co-developed by Axon Digital Design. Synapse includes the ASM10 for A/D conversion and embedding; the SAM10 D/A for D/A conversion and disembedding; and the Synapse Twins, a group of seven dual-function modules that include dual embedders/disembedders, dual composite decoders and dual frame synchronizers.

Prime Image rolled out its new HDSC, an HD digital standards converter that accepts virtually any analog or digital source including computer graphics, with a 3D adaptive comb filter, test signal generator, logo insertion, color correction

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Satellite

CONTINUED FROM PAGE 131

tions, **Broadcast Microwave Services (BMS)** unveiled the latest upgrades to its Truck-Coder II. This two-unit system includes a rack-mounted control and IF unit and mast-mounted upconverter and power amplifier that have been designed for the rigors of ENG vehicle use. The product was demonstrated on a live news van from E-N-G Mobile Systems for HD-ENG applications. Also introduced in the BMS booth were the Central-DeCoder II COFDM digital central receive site decoder; and Field-Coder II portable COFDM transmitter.

Harris Broadcast highlighted enhancements to its NetVX integrated high-speed networking platform—a transrating transport stream multiplexer that optimizes bandwidth while maintaining video quality and a statistical multiplexer to enhance bandwidth efficiencies.

Link Research gave showgoers the first look at its new LinkHD Wireless HD camera system with a Link 1403 wireless transmitter—for low delay, low power, and robust signal. Link also released details about its Cellular Diversity tests that showed wireless cameras can operate in dense urban areas using a fixed receive point instead of an SNG vehicle with a full technical crew. Using the BT Telecom Tower in London as a receive point, tests showed that at a standard Link XP 100 mW output, a wireless camera would operate reliably at least 1-km from the tower.

Trip Kraniak and Ramond Thurber, both of WXYZ, look over an N Systems MC5 microwave control system

In its BAS Relocation Center, **Microwave Radio Communications (MRC)** showed its enhanced CodeRunner 4 central receiver with optimized band pass filter, preset control, and RX spectrum display; and the MRX4000 digital and analog IF receiver with comprehensive Link Quality monitoring. Also shown was a live HD helicopter downlink featuring HD-ready Strata receivers and transmitters and an auto tracking, high-gain, transmit and receive antenna, as well as a TwinStream and DAR Plus microwave solution configured with the new QV2 itnernal variable rate modem; and MRC's new SCM4000, a 1 RU variable rate modem with multiple simultaneous interface capability for data rates up to 90Mbps.

Modulation Sciences introduced the Model PRO-3 Delay Corrected PRO Channel Receiver, for use with its PCG-II generator, which provides four solutions to correct delay caused by digital transmission, and delivers up to six independent mix/minus feeds. Also introduced was the Model MSI 4400 8-VSB analyzer, providing signal strength metering, bit error rates, tap weight equalizer graphs, and other critical functions.

With the help of Gyron Systems International and HD-Wireless, **Moseley Broadcast** performed a live demonstration of its new Event HD-6500 by feeding HD video from a helicopter flying around Las Vegas to an ENG van at the Las Vegas Convention Center. The video was then relayed to the NAB-HD Exhibition via a fiber optic cable. The HD-6500, a bandwidth-scalable, multiple stream ENG solution provided a 42 MBps ASI transport stream for video conveyance between the helicopter and the van. Moseley also introduced the HD-2200 video ENG link for the 2GHz BAS relocation.

N Systems (NSI) unveiled its Single Climb Solution (SCS) for the 2 GHz BAS relocation. The goal of relocating all 2 GHz BAS users in less than 30 months will stress the capacity for both ENG equipment manufacturers and tower service companies. So, SCS was designed to minimize the expense and service interruptions for news operations with existing NSI and legacy NURAD ENG antenna systems. Also in the booth was a live news truck from KTVK that incorporated NSI's NuPod smart antenna system and Auto Link, which enabled remote control of the truck's transmit antenna, transmitter, air router, and roof camera from the studio using a high-speed bi-directional wireless link.

(L) Steven Alvis of Sunrise Communications and Tammy Alvis from First Plymouth Church (R) discuss a Frontline ENG Sprinter truck with Bob Kin (C).

Nucomm announced a significant contract with Nextel Communications, Inc. concerning the provision of microwave transmission and reception equipment to meet the needs of broadcasters affected 2 GHz BAS relocation plan. Nucomm provides premier digital and analog video microwave systems, including the Newscaster VT2 D/A ENG/OB van transmitter, Newscaster CR6D, Channelmaster TX1, and the Newscoder TX3, and wireless camera transmitters.

RF Central lifted the curtain on its RFXtreme Digital Microwave product line, including the RFX-PHT camera-mounted, 100W COFDM 4:2:2 transmitter with QPSK, 16-QAM, and 64-QAM that mounts in a case and provide more than 7 W for use in a car. (It was shown in a Chevy SSR Live Truck). Also shown was the Live-Eye mobile camera system, and Live-Eye high-power mobile transmitter packages. RF Central also has a complete line of RFX equipment for the 2 GHz relocation.

ENG AND TRUCKS

Aastra Digital Video demonstrated a fully operational MPEG-2 networking across DVB/ASI, ATM, and Gigabit Ethernet transports using its industry leading Video Runner video networking system, which includes the ENC-H11 HD MPEG-2 encoder—the industry's smallest, contribution-quality MPEG 2 HD encoder for 1080i and 720p HD; and the TMX-M22-TR bitstream transrating module. And Aastra also exhibited its unique Voice Over IP technology solution.

Arctek Satellite Productions, which acquired Conus Communications' satellite services division, unveiled the latest vehicle in its fleet—the ARCTEK Green, a digital HD/SD uplink vehicle designed and constructed by Frontline Communications. Built on a rugged Mercedes Benz Sprinter van chassis, it can transmit virtually any signal, including analog, digital 4:2:0, digital 4:2:2, and ASI.

The former A.F. Associatesæ now **Ascent Media Systems and Technology Services**, a division of Ascent Media Network Services—presented its global capabilities, including engineering, systems integration, consulting, equipment installation, and network management. The company announced several deals during the show including a contract to build the PBS NOC for ACE as well as a deal with Hewlett-Packard to digitize Sony films and television programming.

E-N-G Mobile Systems presented its OmniLink SNG and SNG/ENG news vehicles with many configurations for news gathering.

Frontline Communications exhibited satellite trucks, including: the DSNG Sprinter, built for Arctek, Minneapolis, MN; and the DSNG-350 HT.

Coastal Satellite displayed its new C-Band/KU-Band HD satellite truck featuring phase combined transmission redundancy.

Frontline Communications exhibited ENG trucks, (custom-built for its customers) including: the ENG Sprinter (WBTW, Florence S.C.); ENG- 350 LT (KMOV, St. Louis, Mo.); ENG- 350 HT (ABC Network); and the ENG- 350 HT (KTVK, Phoenix, Ariz).

Calling it its "million dollar baby," **Shook Mobile Technology** introduced the new custom-built A15 (1080i) HD production truck. Designed on a 2006 Ford LCF chassis, this HD truck supports six operators, three Ikegami HL-75 1080i HD cameras, Ikegami picture monitors, Ikegami 300 switcher, Leitch routing, and Panasonic digital VTRs. Also displayed was a new "Hummer II" digital ENG vehicle—a live, on-the-move microwave van utilizing MRC's COFDM microwave system, roof-mounted omni antenna, and roof-mounted, remote controlled color camera with 10X zoom. ■

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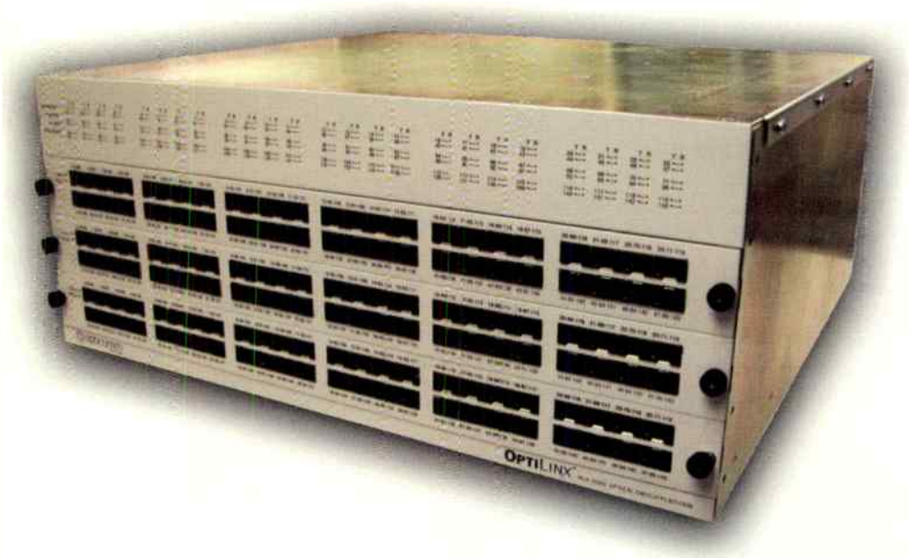

Opticomm's OptiLinx™ OLX-3000 is a versatile, multi-purpose, fiber optic switch that provides high-speed switching between ports. The OLX Series is capable of switching signals up to 4.25 Gb/s with each of its 144 ports, all in a compact 4RU chassis, using swappable SFP modules.

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Signal

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and adaptive noise reduction.

Snell & Wilcox expanded its Kudos Plus line of standards converters, time base correctors and synchronizers by adding the new Kudos Plus TBS150 and TBS150D SDI and composite synchronizers and the CVR400 and CVR400D for stabilization and conversion to and from NTSC and PAL.

Now owned by Silicon Optix, **Teranex** showcased its new Realta (Teranex-on-a-chip) video processing-based format converter.

Vistek Electronics introduced the V6406, a modular upconverter to convert all forms of SDI to HD, and other audio/video multiplexing products.

CLOSED CAPTIONING, SUBTITLING & SIGNAGE

Chyron showcased its new DynaCrawl application, which inserts up to four news elements for tickers and crawls, plus time and temperature displays, dynamic data fields and 3D object animations. The show also marked the debut of ChyTV, Chyron's new digital signage line, which enables broadcasters to display graphics and text overlaid or surrounding a live video region.

DVEO introduced a new PSIP Toolkit, which offers a dynamic link library for writing programs to analyze and modify PSIP tables in real time.

Keywest Techno-logy unveiled the MX5 Plus HD and MX5 Plus Key, both offering multimedia messaging control functionality, CG and seven independent element layers.

Screen Subtitling Systems unveiled an HD version of its Polistream G5000 subtitle and graphics transmission device for broadcast-quality subtitles plus graphics, logos and more.

Newsroom Solutions unveiled Expio, a powerful, real-time graphical effects environment, which includes integrated 3D DVE and 10-bit graphics processing, along with the NewsTicker, which delivers automated or manual ticker content such as school closings and weather alerts on analog and DTV channels.

Terayon Communications Systems came to NAB with a new emphasis on video processing, demonstrating new, real-time Digital Motion Graphics Overlay (DMGO) technology for managing, branding and localizing both HD and SD channels with news, advertising, weather and more. Terayon's DMGO technology composites SD and HD video with the output from CG systems, such as Chyron Duet and Lyric graphics software, and inserts text and graphics overlays in real time directly into compressed MEG video streams.

Thales Broadcast showcased PEARL PSIP generators.

TM Systems showcased two new products: the QC Station, a quality control software application that streamlines the workflow of a dubbing and/or subtitling project, and the RenderStation, a bitmap generation module that takes subtitling scripts in the form of Word documents and generates a navigation file and a TIFF file per subtitle, for DVD authoring.

CONTROL & PERIPHERALS

New features were added to the **AJA Video Systems** KONA 2 card, including 10-bit hardware HD upconversion, and dual-link 10-bit RGB capture and playback of full-bandwidth 10-bit 4:4:4 RGB video from/to equipment with dual-link capability.

Blackmagic Design announced that its DeckLink HD Pro video card has been certified to work with Adobe Premiere Pro 1.5 for real-time video and audio editing and effects, plus support for DV, HDV, SD and HD formats, including 3:2 pulldown support for HD. The company also announced that its DeckLink uncompressed video card is now fully compatible with Apple Final Cut Pro 5, with support for the DPX file format, custom-capture gamma tables and the digital intermediate workflow.

DNF Controls announced two new modules providing enhanced capabilities to its Flex Control Network, including playlist playout and router control over single or multiple routers.

DVEO spotlighted several new products, including the StreamValve II transport stream recorder application and FireCaster for HDV and real-time transport for HD via FireWire.

Evertz showcased the VIP, a multi-input display processor and signal monitoring system solution that handles up to 12 video inputs with embedded and discrete digital or analog audio.

JLCooper Electronics showed its new ES-SloMo compact controller for VTRs, DDRs and servers for news, sports, scoreboards and other editing operations; it also unveiled the MCS-Spectrum colorist control station and the MCS-Clipshot tactile palette.

Miranda Technologies introduced new features for its iControl Monitoring and Control-Over-IP system that leverage SNMP protocols for signal monitoring and control of video and the surrounding transmission, networking and building infrastructure.

New solutions for Webcast captioning were shown in the **National Captioning Institute** booth.

Tandberg Television demonstrated its nCompass control and monitoring technology.

(L to R) Hiroshi Tango of Frontiers in Japan listens to Kevin McKinnon of Terayon describe a feature on the Terayon BP-5100 motion graphics inserter and bandwidth optimizer.

TELECINE & COLOR CORRECTION

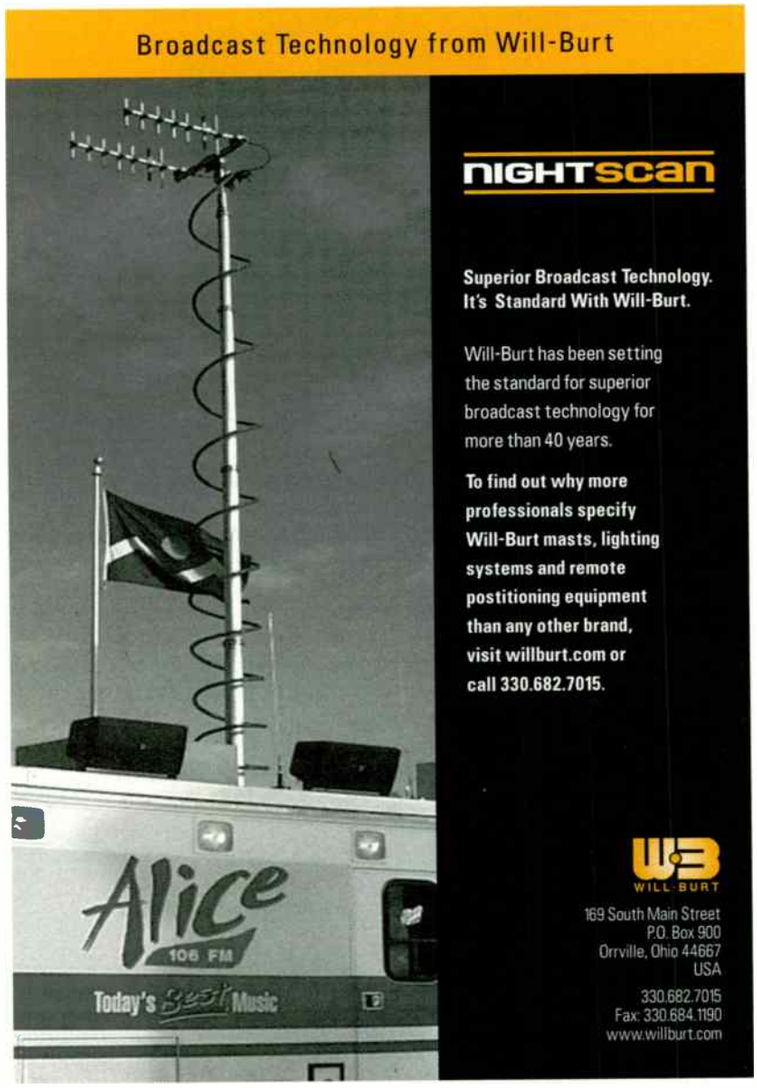
Autodesk announced **Discreet** Lustre 2.6, a high-performance digital intermediate and color grading system for 2K and 4K image enhancement, and the Autodesk Incinerator 1.0 system accelerator, which allows multilayered color correction and effects like defocus in real time at 2K resolution.

Celco introduced its new Digital Chemical Process (DCP) Color Imaging Tool for digital imaging recorded on its Fury and Firestorm film recorders to remove unintended anomalies and limitations within the film component of the motion picture system. The company also introduced its new FilmOut Pro graphical user interface software, which adds additional imaging and film recorder control tools and further simplifies the operation of the recorder.

da Vinci Systems unveiled Version 2.0 of its Resolve image enhancement and nonlinear conforming solution, which includes tools for defocus, image filtering, color processing, windowing and the company's new PowerPlant image processing accelerator hardware for real-time multilayered color correction of film resolution images. Also shown were upgrades to the Revival film restoration system, including interactive tools for dirt and dust removal. In addition, da Vinci announced the new 2K Elite series—including the 2K Ruby, 2K Sapphire and 2K Emerald systems—which combine the functionality of da Vinci's PowerWindows with other popular features to upgrade the 2K Plus color correction system.

On the heels of its acquisition of Nucoda, **Digital Vision** showcased a

SIGNAL PROCESSING, PAGE 138



World Radio History

Camera Support

CONTINUED FROM PAGE 129

to move around an object in a precisely defined circle.

PoleCam showed its DiveBag 2 that allows the Polecam head to dip and shoot just below the surface of the water. Also new from Polecam is its Submersible Head and Camera Housing, which can be used to a depth of 13 feet. It sits at the end of the Polecam boom.

Porta-Jib, which uses hard-sided hose to provide seamless dolly tracks, introduced two new accessories to its system. Since the hose itself is not rigid, the company debuted stiff channels in which the hose can be laid and then leveled in the standard fashion.

Also new from the company is the Porta-Glide Dolly Sled, which carries third party dollies on the Porta-Jib hard-sided hose seamless dolly track system.

PROMPTERS

Audio Visual Design unveiled its new EasyReader Dual-Screen Windows prompter software capable of mirroring the laptop's output to the prompter while keeping the operator screen un-mirrored and heads up.

Autoscript introduced the GoPrompt 12, a wirelessly controlled, self-contained prompting system, negating the need for a laptop. It features a 12-inch High Bright screen and can be fed scripts via USB flash drives.

Autocue celebrated its 50th year in business by introducing a new group of functions for its teleprompters that allow written notes to be seen on the screen, overlays such as countdowns, full screen images and a wireless hand controller. The company also showcased enhancements to its LT prompter system, dubbing it LT+.

Listec rolled out its new Z-PRO teleprompter, designed specifically for mini DV cameras. It features a 15-inch monitor and a choice between studio and fold-down hoods. It can take a camera load of up to 25 pounds.

The company also brought its A-6000WIN InstantEdit and A-7000WIN Runorder Windows programs, designed to facilitate last-minute editing, script substitutions and messaging.

Mirror Image introduced Version 2.0 of its Script software, which features a screen three-quarters filled with reversed script to be viewed off the prompter mirror by talent, one-quarter non-reversed to be viewed by the prompter operator. The company also showcased a new LC starter series of prompter equipment for those seeking a more economical prompting solution.

Prompting.Com introduced a consumer grade 15-inch LCD prompter, featuring a true glass beam-splitter and software featuring reverse image. The package operates on 120 or 240 V and features a composite video BNC input with loop-through.

QTV, a division of Autocue, rolled out its BORIS multiple scroll control and Bluetooth-compatible wireless hand scroll controls at the show. Using QTV's WinCue prompting software suite, the software-based BORIS allows users to link a significantly increased number of scroll controllers to one output, increasing the options available to programs with multiple presenters who control their own prompters. The new wireless hand scroll control provides Bluetooth-based wireless convenience to talent who move around the set, as well as studio engineers and set designers looking for increased prompter system flexibility.

SRI-Prompter showcased its TVP-13 and TVP-20 prompter units, designed to accommodate any size camera down to a palm-sized mini-DV camcorder.

The company also showed fold-away floor prompter units that store in a small case and feature a hand-held remote control unit.

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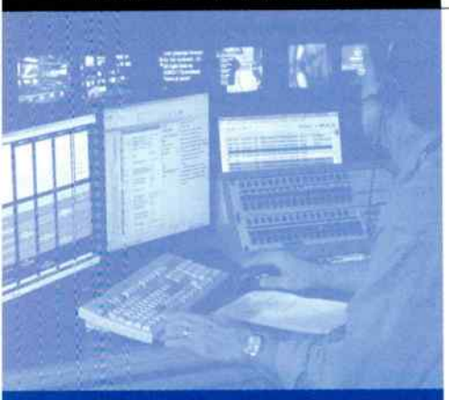
PRODUCT REVIEW

ASSET MANAGEMENT



BY SUSAN ASHWORTH

Flexibility, simplicity and compatibility were the watchwords for asset management systems at NAB2005. No longer just an added feature to automation systems, asset management applications have become a key management component of most IT-based broadcast infrastructures.

Tapping the power of video-on-demand, **Anystream** unveiled Agility VOD, a video-on-demand production system that automates key workflow components in an effort to help broadcasters create and deliver content to VOD organizations.

Ascent Media Group launched its Digital Solutions Suite, including the Atlas and Hub asset management services. Targeting motion picture studios, Atlas enables clients to reliably store repurpose and redistribute content and supports multiple formats from low-resolution proxies to broadcast to master reference file-quality delivery encoded up to 300 Mbps. Hub, targeting advertisers, ad agencies, production companies and other content owners, is a hosted service that clients can access 24/7 through a secure Web site.

Autocue's asset management offerings included QLog, which allows users to search archives for spoken words or phrases without prior transcription. Autocue also showed an enhanced version dubbed QLog+.

A good example of how asset management has evolved and can spur new solutions came from **Avid Technology** at NAB2005. The company's new iNEWS Instinct system is a composition tool that allows journalists, newsroom staff and producers to create news stories with text and video footage without the need to learn an NLE application.

BBC Broadcast announced the development of a new video-on-demand search tool enabling the search of media as well as the automated publishing of content over multiple platforms. The company also announced that it is working with the Swedish company Ardendo AB to develop a new Media Object Management System.

Blue Order showcased the newest features in its Media Archive Enterprise Management Platform, including a new workflow management feature that automates machine-based workflow, new multichannel scheduling and new support for Avid Capture Manager and Avid Unit news production systems technologies.

BroadView Software showcased enhancements to the BroadView Traffic and Programming system, including advanced secondary event management, library management and a sales data warehouse. The company also announced that its software now helps broadcasters address some of the new children's programming requirements imposed by the FCC.

Chyron showcased MOS, a newsroom server that allows for asset browsing and graphics production via the Chyron ActiveX interface, allowing a user to remotely access a library of templates from the MOS server. The companion Asset Manager from Chyron is used to organize and manage content via a network.

Crispin came to NAB to launch the AssetBase with LoRez, a Web-enabled asset management solution that combines media management capabilities with a relational database. LoRez generates low-resolution proxy clips from video assets. The company also unveiled Archive Manager, a broadcast archive management and storage system.

Dalet Digital Media Systems launched the new DaletPlus News Library, a media asset management and archive system designed for broadcast news. The system was built to work within the confines of a news organization, providing journalists with a fast-access news library that integrates with news production and newsroom computer systems. The company also announced it has partnered with Omneon Video Networks, linking the DaletPlus News Suite with the Omneon Spectrum media server system for digital news productions.

DayPort introduced the new Carbon media asset management suite, which incorporates archiving by transparent integration of content, assets and metadata.

Exhibiting for the first time at NAB, **DAX Solutions** came to showcase its Digital Asset Management System, and its Intelligently Distributed Asset System. The company also announced a partnership with Xytech Systems by which the two will offer a physical and digital asset management system with workflow tools, enabling digital fulfillment and on-demand access to media libraries.

Digital Transaction Group premiered its new XE solution, the eXtensible Edition, Automation and Content Lifecycle Management software. This XE software is a media asset management, lifecycle and television automation system.

Front Porch Digital showcased its newest digital archive management software, DIVArchive 5.8. The latest enhancements to the DIVArchive solution allow broadcasters to view and browse archived content.

Focus Enhancements offered attendees a preview of its ProxSys media server for digital asset management. The server manages up to 50 TB of low- and high-resolution video, audio, images and data from a Web-based interface.

The new dMAX initiative launched by **Grass Valley** at the show includes a series of software and middleware framework applications including asset management, facility management and monitoring capabilities.

Targeting smaller broadcasters nationwide, **Harris** released what it calls a new broadcast starter pack that's based on the Invenio digital media asset management system. Designed to jumpstart the digital archival process for broadcasters, the Invenio starter pack offers a scalable ingest and archive solution for managing media. The company also showed off its Arkemedia workflow manager, a digital asset management module that allows users to determine workflow efficiencies and metadata functionality. Harris inherited Arkemedia after acquiring Encoda Systems in 2004.

IBIS introduced a new distributed control and automation architecture called PAC, which allows broadcasters to implement a range of process, control and automation systems designed to integrate with the IBIS range of station automation, news/sports automation and channel/asset management systems.

Just Edit showcased its vsnarchive digital asset management software, which features improved material browsing and retrieving procedures.

Konan Digital debuted two new asset management systems designed to improve workflow and the operations of both news and production facilities. The Konan DigitalArc for News and DigitalArc for Production are designed to allow broadcasters and production houses to build a file-based digital asset management environment or integrate one or more standalone DigitalArc components into their environment.

Attendees gather around the main display at the Sundance Digital booth, which included Seeker task and asset management product, Media Prep content management software and Titan station automation.

Masstech came to NAB to showcase new features for its MassStore asset management system, including distributed redundant architecture, intelligent partial file extraction, and restoration and scalable data-mover technology. The company also showcased new features to the Mass Media Box, a work-

Signal

CONTINUED FROM PAGE 136

broad range of products, including Version 2.0 of its Valhall real-time color grading system with full primaries and secondaries, machine control and ergonomic work surface.

Edifis introduced The Finaliser integrated tapeless HD color correction and formatting system with real-time processing and storage of uncompressed HD video.

Imagica Corp. introduced the latest model of its IMAGER XE series of digital film scanners: Imager XE Advanced Plus Digital Scanner, which scans 35mm film to 4K/2K (4096/2048 x 3112/1556 pixels), 10-bit color DPX digital data files for digital mastering, at 2.5 seconds per frame; a liquid gate is now available as an option.

Nextamp showcased NexMaster HD for invisible watermark embedding with HD SDI I/O to protect against movie piracy.

NVIDIA unveiled the Quadro FX 4000 SDI solution for compositing live video onto virtual backgrounds for virtual sets, sports and weather.

Thomson showed the **Grass Valley** Spirit 2K DataCine, which enables moviemakers to scan their films to create a single digital file for multiple post-production processes. The Spirit 2K DataCine leverages the design of the high-end Spirit 4K system to provide a 2K image-capture capability; as demand for higher resolutions grows, users can upgrade a Spirit 2K DataCine to a Spirit 4K system.

DATA & WEBCASTING

Comlab Telecommunications presented its Secure-IP multilanguage Davicom MAC2 site monitoring and control unit providing 128-bit encryption for Internet communications.

Optibase debuted its new family of products for Video-over-IP, including the MGW 1100 compact carrier-grade TV streaming platform.

Triveni Digital introduced the SkyScraper Application Constructor Toolkit for data broadcasting, which opens up new revenue streams to DTV broadcasters looking to send large quantities of data for streaming media and interactive television. ■

World Radio History

flow and production platform for content management. Also on display was MassBrowse, a desktop application for content and media prep.

Australian-based **mediaproxy** introduced Enigma 5.1, a logging solution that offers closed-caption and VBI support, regional language support and multiple audio channels. Features include redundant recording targets, SDI/analog sources and comprehensive schedule capability.

Octopus Newsroom showcased Octopus Track, a resource tracking system for TV and radio, as well as Octopus Lars, a Web content management system that integrates with the Octopus5 newsroom system.

Omneon Video Networks introduced MigrateTool software that preserves metadata and vertical interval data in each individual clip, simplifying the integration of the Omneon Spectrum media server system into production and playout workflows.

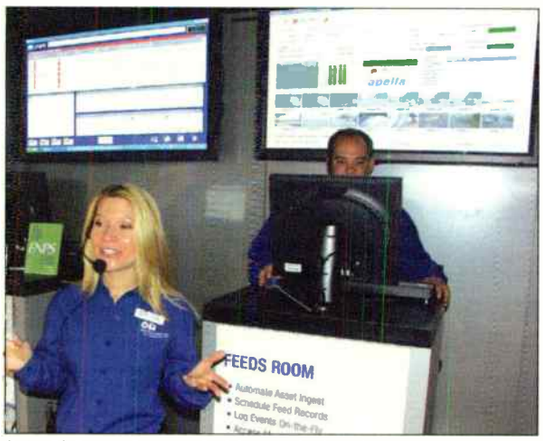
OmniBus Systems unveiled its new OPUS content management system, designed to ensure efficient ingest, review, annotation and storage management of content. Components of Opus include the opus.Media Framework, which provides content management infrastructure; opus.Logging for annotation of content; opus.PinPoint for content selection; opus.View for content proxy viewing; opus.Index for metadata analysis and test indexing; and opus.MediaFlow for transfer and transcoding of content.

Pathfire showcased Pathfire Direct, a digital content distribution solution that allows broadcasters to simultaneously monitor, gather and disseminate live and store-and-forward content; and the Digital Media Gateway, a distribution and management system for news and sports.

Pro-Bel introduced an expanded version of its Procion workflow tool set, now providing a unifying environment for Pro-Bel and third party applications. The new features allow users to create and customize graphical user interfaces as well as providing a Web client to access all of the core system functionality through a standard Web browser. This allows Procion to be access from Apple, Unix and other non-PC platforms.

Proximity showcased the newest version of artbox, a video asset management and workflow system for TV and post departments that allows users to catalog and store media as well as simplify creative production workflow by allowing users to track their projects, associated media and still-outstanding tasks. The company also showcased the newest version of Xenotrack, which allows users to track order creation, queue management as well as review and approve graphics. The company also announced that it has partnered with Vizrt to integrate Proximity's Xenostore media cataloging software within the Viz|Content Pilot content management and control software.

ScheduALL introduced several new enhancements to its broadcast resource management software solutions, including a new universal interface to Network Management Systems (NMS) and Monitoring and Control Systems (M&C) using Microsoft's .NET technology. The company has also redesigned its Web User Interface module to allow users to view and control personnel and resource scheduling remotely over the Internet.



(L to R) Susan Bonss of Video Technics gives a presentation on the company's NewsFlow while Trent Ogle of KLRT manages the display.

At NAB for the first time this year, **Siemens** was offering media asset management and workflow solutions as a result of its acquisition of BBC Technology in October 2004. The company showcased the Colledia Workflow system and Colledia Control, as well as content management and delivery services such as Media Communications, Internet Solutions and Content Factory.

Snell & Wilcox introduced a new ingest workstation called Asteroid, designed to give users the benefit of an interoperable and manufacturer-independent approach to cataloging program libraries. Along with the company's Comet, which is a software-based, open-standard ingest system for broadcast servers and asset management systems, the two technologies are designed to help content owners turn archives into open-standards MXF files that can be stored and transported over IT networks.

Sundance Digital introduced Seeker, a software-based asset management system that includes a workflow management engine that allows tasks to be created, assigned and tracked; an asset management tool that tracks, manages, stores and indexes media; and a media management engine that integrates with third-party transcoding engines to manage media's movement to and from broadcast devices.

Telestream showcased its MAP Media Collaboration system, which gives myriad users the ability to access, contribute and comment on media products across LANs and WANs. The system now supports the Microsoft SharePoint Web portal and collaboration tools.

TMD Ltd. came to NAB to announce Version 3 of its Mediaflex media asset and workflow management solution. Key features include support for Windows Media 9, scene-change recognition in high- and low-res formats, and Web search capabilities.

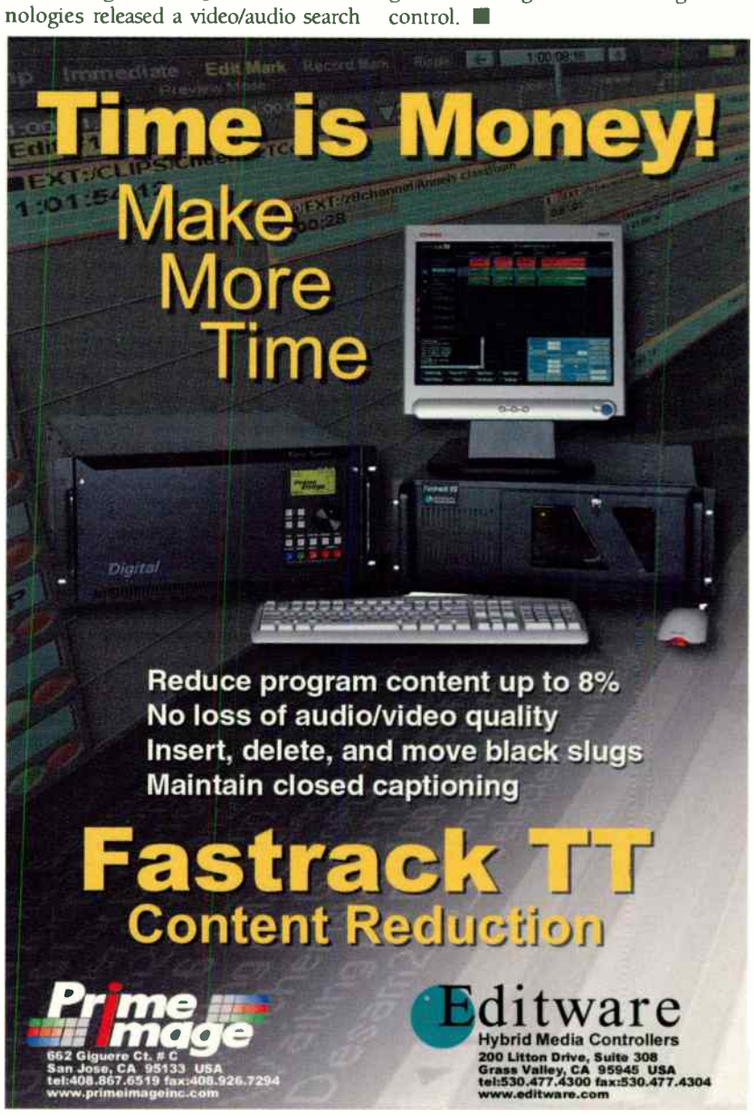
Video Technics showcased its NewsFlow tapeless newsroom solution, with features that include asset management control. Other new solutions include the Proxy Editor 4.0, a low-resolution editing, browsing and asset management system.

Three companies have joined forces to create an as-yet-unnamed new video/audio search solution. **Verity, BBN Technologies** and **Jubilant Technologies** released a video/audio search solution that combines the Avoke STX speech-to-text software from BBM, enterprise software from Verity and a middleware platform for multimedia management from Jubilant.

VertigoXmedia showcased the new Xmedia Suite Version 3.5, a suite of tools designed to create, manage and play out broadcast-quality graphics for broadcast and post facilities. The Xmedia suite is built around the Xmedia centralized asset management server, which allows users to access and manage assets, manage asset publishing, share assets between multiple users, and manage and access data sources.

The newest version of the Viz|Content Pilot content management system and control software was showcased by **Vizrt**. Version 4.1 of Viz|Content Pilot includes a multiuser playlist with real-time updates, allowing multiple producers to update the playlist simultaneously. New this year is integration between Content Pilot and the Xenostore content management software from Proximity. This system comes integrated with Viz|Trio, which provides graphics workflow efficiencies.

Wegener showcased the MediaPlan Content Management system, which gives users digital asset management control. ■



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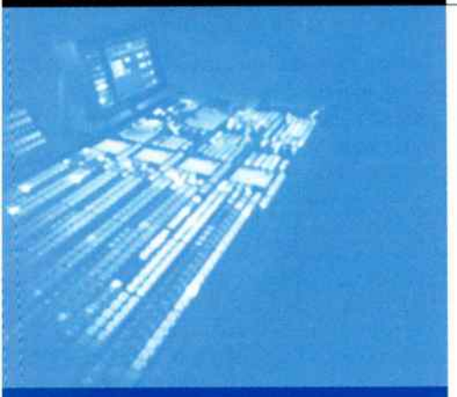
PRODUCT REVIEW

ROUTERS & SWITCHERS



BY BOB KOVACS

It used to be that production and master control switchers simply, well... switched. They performed basic cuts from Camera-1 to Camera-2 or from the network to the local studio, that sort of thing.

Today, switchers are expected to do much more and the line is sometimes blurred between formerly separate devices such as master control and routing switchers. As for production switchers, they are being stuffed with every tool in the production arsenal short of including built-in cameras. (And if one shows up at NAB2006 with a built-in camera, remember that you read it here first!)

PRODUCTION SWITCHERS

Take, for example, the **Broadcast Pix** Studio2000. Although the company hesitates to call it a "switcher," this 22-input... um, device contains a character generator, digital clip store, stillstore, logo generator and three keyers, each with digital video effects. New options for the Studio2000 include audio I/O for the clip store, two hours of clip storage and a downstream keyer.

Snell & Wilcox created a stir with its Kahuna, the first switcher that can simultaneously mix and switch SD and HD signals. The Kahuna is large switcher that is available in two-, three- and four-M/E sizes, and is offered at a lower cost to work exclusively with either SD or HD. A firmware upgrade that the company says is simple is all that's needed to get full SD/HD capability.

To many NAB attendees, "production switchers" and "Grass Valley" are synonymous. At NAB2005, **Grass Valley** showed its new XtenDD HD switcher, which is available with up to four M/Es and has three keyers per M/E. The XtenDD also features the company's Dynachrome chromakeyers for fringe-free effects.

Also from Grass Valley was the latest version of its Kalypso switcher, the Kalypso Duo. Software upgradeable to HD, the Kalypso Duo now has a macro feature that recalls complex setups with a push of one button.

Although **Sony Broadcast** had a massive booth, production switchers were displayed prominently. Topping the list was the company's MVS-8000 SD/HD switcher, which this year had a new editing interface and keyboard called the MKS-8050 that uses Sony's BZS-8050 software.

Also drawing attention at the Sony booth was the large MVS-9000 four-M/E switcher, which is for SD operation only.

Ikegami has long been know for its cameras in the United States but has only recently introduced switchers here. At NAB2005, the company showed its new HSS-3000 production switcher, a 96-input model that has four M/Es, four keyers per M/E and built-in DVE. The HSS-3000 can be used for either SH or HD.

Reducing power consumption and increasing flexibility was the goal of **Echolab's** NovaIdentity4 production switcher, an all-SDI model available in different sizes and configurations. Perhaps the most amazing thing for this compact and inexpensive switcher was its power consumption: 25 W.

For-A had much to show this year for production switchers, starting with the VPS-700 Ginga 16-input, one-M/E SDI model for small facilities. The Ginga (which is Japanese for "galaxy") has six keyers, two stillstores and six channels of DVE.

For medium-sized facilities, For-A introduced the HVS-3800HS Hanabi, a 16-input, two-M/E switcher that supports both SD and HD video. The HVS-3800HS features built-in color correction, six keyers and stillstores, and performs animated logo insertion.

The production switcher news at the **Ross Video** booth was the company's new software for the Synergy line. Version 15 of the software includes interoperability with the company's OverDrive control system as well as adding new features such as warp effects for corner pinning, lens flare and obscure.

The Synergy 4 is Ross' biggest switcher and it was shown in its multi-definition version, with 96 inputs, four channels of 3D DVE for each M/E and is capable of supporting SD and HD video.

For small productions, **Brick House** debuted the Callisto, an SDI switcher with either six or eight inputs. The Callisto can be either freestanding or rackmounted and has an analog input option with dual frame synchronizers.

Also at the Brick House booth was the MX-Air switcher from SAV. This is a one-M/E, eight-input SDI switcher with built-in audio mixing. The MX-Air has a built-in 6.4-inch touchscreen monitor and can do digital audio embedding and de-embedding.

Panasonic showed its small AG-MX70, an eight-input switcher with both analog and SDI inputs. The AG-MX70 has one M/E, built-in DVE, provides support for the 16:9 and 4:3 aspect ratios and includes an audio mixer section.

Freelance TD Bob Yodice tries out the Grass Valley Kalypso two-M/E switcher.

Introducing its first HD switcher was **Eyeheight**, which rolled out the irisHDi. This eight-input HD-SDI production switcher has two aux outputs as well as program and preview outs.

Leitch, which acquired **Videotek** last year, showed the Videotek Digital Prodigy production switcher. This one-M/E SDI switcher has 16 inputs, five keyers and audio-follow capability.

The small switcher niche was also served by **Focus Enhancements** with its new MX-4. This unit features 12 inputs (eight analog and four DV), four-layer video capability and a built-in graphics store. In addition the MX-4 DV ships with 50 graphic backgrounds and 50 matching lower-third foregrounds for quick composition of titles and graphic screens.

MASTER CONTROL

New from **Grass Valley** at NAB2005 was the Maestro, a master control switcher that fits into one slot of the company's Concerto router. Maestro cards are available for SD and HD and the system supports digital audio, embedded audio and Dolby E multichannel audio.

Grass Valley also displayed its Saturn multichannel master control switcher, which can handle both SD and HD, and can control up to 15 channels from one panel.

Leitch displayed its Opus master control switcher, which is now tightly integrated with the company's Inscriber IncaStation logo and data crawl system. Using real-time data, IncaStation can insert live weather, sports or news crawls in tandem with Opus.

HD channel branding was featured in the **Miranda** booth with its Imagestore product line. Imagestore contains dual DVEs and can perform 5.1 mixing, and the unit also offers up/down/cross conversion and Dolby E decoding.

At the **Quartz** booth, the company debuted its QMC-2 master control switcher, an SD/HD unit that supports up to three external keyers and two animated logos on the program output. The QMC-2 can be controlled through its front panel or from its Ethernet port.

Over at **nVision**, the company has expanded its long-running routing switcher line to include master control products. The top of the line is the NV5000-XP-SDHD, an SD/HD master control switcher with enhanced squeezeback digital effects. Middle of the line is the company's NV5128-MC, which is capable of SD or HD operation; at the low end is the NV5000-MK-SD, an SD master control switcher with channel-branding ability.

PESA Switching Systems displayed its MCLite switcher, which features multichannel SD operation, up to four keying layers, logo keyer, AES and embedded audio processing and an optional DVE squeezeback.

Debuting at the **Pro-Bel** booth was the Masterpiece, an HD switcher with two keyers and the ability to place the DVE into the chain before or after either keyer. The unit has Ethernet control and works smoothly with the company's Procion workflow control system that places master control, automation and media management under the control of one easy-to-use graphical interface.

Ross Video showed Version 3.0 of its OverDrive Production Control System that includes applications for news, sports, faith-based and live event productions. The new version adds control for Chyron CGs, text feedback from newsroom systems and a safety crossover switch for redundant server applications. In addition, enhanced audio and video server control has been added to the DirectControl display. It also adds support for MOS 2.8, simplifying the integration of OverDrive into newsroom systems

Topping the master control bill at the **Utah Scientific** booth was the HD/SD-2020, a SD/HS switcher that can have up to four keyers, each of which can be placed into the signal processing chain either before or after the mix/effects block. For additional master control effects, the company showed the

SWITCHERS, PAGE 144

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STAR 2005 TV TECHNOLOGY

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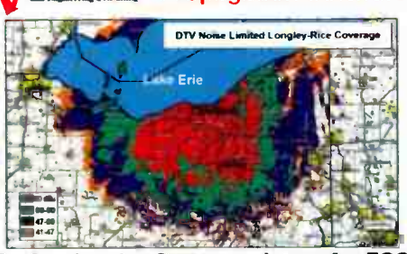

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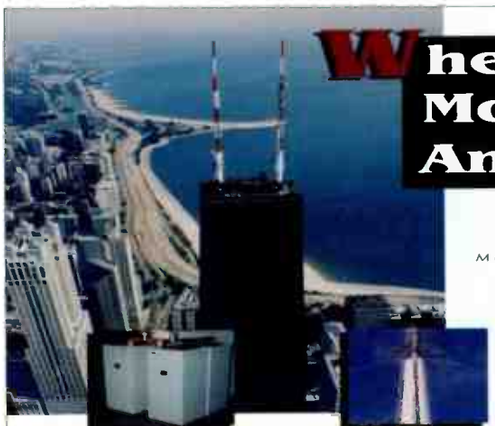

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Switchers

CONTINUED FROM PAGE 140

SqueezeMax digital effects system.

New from **Eyeheight** was the SQ-2E dual-input squeezeback processor with integrated keying. The SQ-2E is designed for picture-in-picture and image-squeeze applications, and can perform real-time horizontal and vertical resizing effects, individually or simultaneously.

ROUTING SWITCHERS

Adrienne had its long-running line of small analog routers for monitoring and engineering applications it the company's booth.

Pro-Bel rolled out its new Sirius Gold router, dazzlingly housed in a bright gold chassis. Available in sizes up to 512x512 (and even bigger for custom applications), Sirius Gold can route SD, HD, AES audio as well as analog audio and video. Like other new Pro-Bel products, it can be controlled by the company's Procion control system.

Small switchers were on display at the **Hotronic** booth. For example, the company highlighted its AS800 8x8 router that can switch signals up to 540 Mbps.

A well-known name in routing switchers, **Sierra Video**, is now part of **Kramer Electronics**. In addition to the Sierra line of mid- to large-size digital and analog routers, Kramer showed its broad range of small switchers that handle anything from audio and video to RS422 and FireWire (IEEE-1394) signals.

Grass Valley has a large line of routing switchers that range up to the very biggest switches available. In addition to the Concerto, Apex and Trinix mid-to-large routers, the company also focused on its Acappella line of small routers. The Acappella is available in sizes up to 16x16 in a 1 RU chassis.

Photonic switching—manipulating light paths instead of electronic signal paths—is making inroads with manufacturers in this industry. **Multidyne** introduced its Polatis 8x8 photonic switcher, a scaled-down version of the 16x16 unit the company showed last year.

For a really big router, **Utah Scientific** showed its Utah 400, a model capable of matrices up to 1152x1152. If you need something bigger than that, the company has custom solutions that are even larger.

A new control panel and router were the highlights at the **Network Electronics** booth. The company showed its CD-MDP control panel with image viewer that can preview both sources and destinations in a built-in LCD panel. The device uses streaming video provided by a card in the VikinX router.

Graham Pitman, group chief executive of Pro-Bel, with the company's Sirius Gold routing switcher.

Speaking of which, the Network VikinX switcher line grew with the addition of a 128x128 AEX model and a 64x64 analog audio router.

New features for the **Quartz** Xenon routing switcher include a multisource ability that can place ID tags on up to eight images. Also new for the Xenon are a series of signal processing cards that include channel branding, synchronizers and a downstream keyer.

An optical router was the switching focus at **Evertz**. The company showed its X1616-OO and X3232-EO switchers, which can handle optical digital signals at rates up to 3 Gbps. The X1616 has 16 optical inputs and 16 optical outputs, while the X3232 adds a 16x16 optical-to-electronic router for more flexibility.

Debuting at **nVision** was the NV7512 expandable digital audio router, which packs a 512x512 matrix into a 14 RU frame. The NV7512 can be expanded to 2048x2048 and handles AES, MADI and analog audio.

Also new at nVision was the NV5256 machine control router that places a 512x512 matrix in a 16 RU frame.

Sigma Electronics showed several new small routers, including the HDVS88, an 8x8 HD-SDI router that fits in 1RU chassis. The HDVS88 can also switch SD-SDI and will autosense between SD and HD signals.

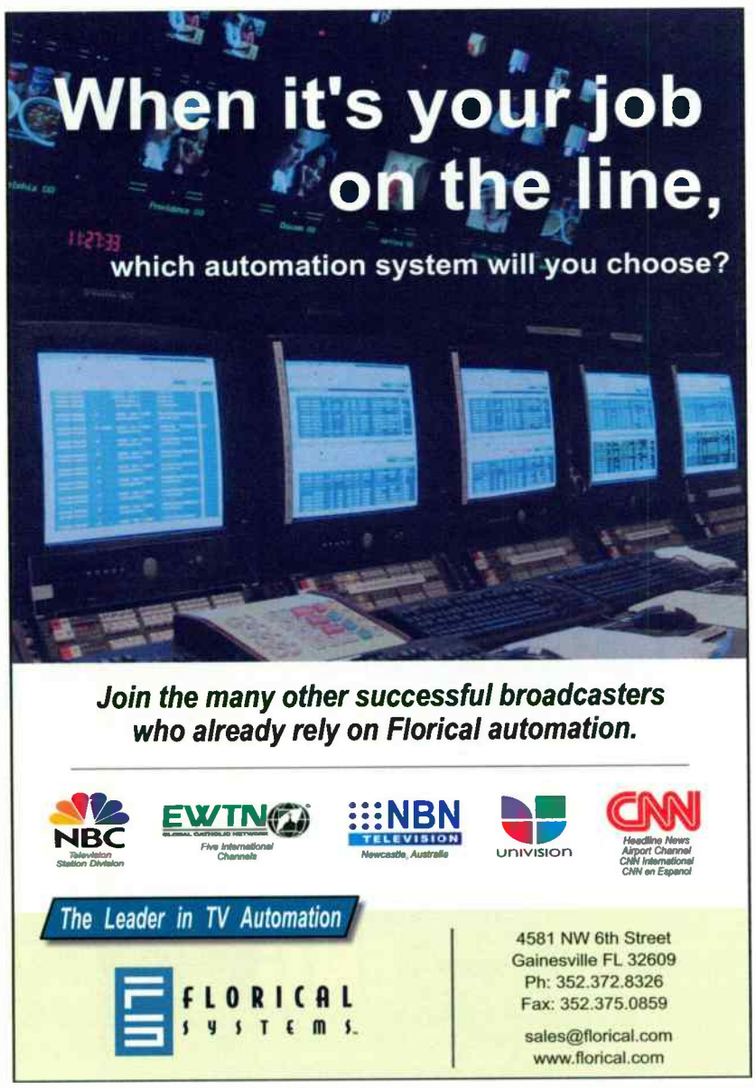
Leitch demo-ed its Panacea line of small routers, including the Panacea Clean/Quiet Switch that handles simultaneous SD and HD. The company's Panacea Lite is available as a dual-format router (analog video and audio, SD video and AES, HD video and AES), or in standalone formats such as analog video, analog audio, SD and HD.

PESA introduced two models in its Cheetah line, the 64NE and 64XE. The 64NE offers a 64x64 routing matrix in a 4 RU chassis and is not expandable. The Cheetah 64XE is also 64x64 and can be expanded up to 64x128.

Also new from PESA was the Cheetah V5, an HD-SDI switcher that can multiplex full-bandwidth RGB onto the 1.5 Gbps data stream for presentation and high-resolution display applications.Digital switching was the focus at the **Sony** booth, with the company highlighting its HDS-X5800 router. This variable-bitrate router supports virtually every digital video format as well as 1080/24p and DVB/ASI signals, topping out at 1.5 Gbps. The HDX-X5800 has a 264x272 basic matrix that can be expanded to a 1056x1088 matrix by cascading multiple frames.

Laird Telemedia showed its LTM-ER4DX four-source edit router that is a 4x1 switch that handles SDI, FireWire and S/PIDF digital signals, as well as analog composite and component.

For small switching needs, **Ensemble Designs** had its 5440 8x8 router card that fits into the company's Avenue chassis. The 5440 is an SD-SDI switcher that can be controlled by the company's Avenue IP control system. ■



Editing

CONTINUED FROM PAGE 122

first to accomplish native HDV editing; now the company's Liquid chrome option supports uncompressed SD and HD through a breakout box and the Liquid blue version provides multi-speed SDTI background capture and DVCPRO 50 support.

The "Pay as you Go" concept from **Quantel** allows facilities to migrate incrementally from SD into HD post production on an as-needed basis. The company also brought back the Newsbox news production system as a baby server in six different versions with scaling capabilities, and showed off the new Picturebox sQ HD-upgradable server to partner with the company's popular Paintbox system. And to unlock the imaging horsepower of its eQ and iQ systems, Quantel premiered Eiger (Effects, Imaging, Grading and Editing Release) software.

With new Version 7.03 software for its XPRI system, **Sony** now lets users import proxy material from XDCAM disks at 25X speed over Ethernet or ingest at full resolution at more than real time. Linear editing fans will also appreciate its DMW-C5 option that emulates the interface of a linear controller including an "All Stop" spacebar. On the desktop side, new Version 6 software for Vegas edits HDV with the CineForm codec, reduces rendering with parallel processing, and it can exchange projects with AAF import and export. ■

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Camera Support

CONTINUED FROM PAGE 137

Telescript brought its FPS-120F Fold and Go teleprompter, which is designed after the company's portable Fold and Go lin. It has heavyweight features in a 11.25 pound package.

The company also unveiled its Telescript AV Version 2 software, offering single or multi-script capability, network or stand alone and full Unicode support, and providing a run list option for multi-script prompting and the ability to customize preferences or to preview and print scripts.

INTERCOM SYSTEMS

Clear-Com Communications Systems rolled out its CellCom wireless intercom system, which incorporates cellular technology instead of the standard two-way radio technology used in most wireless intercoms. The cellular technology allows placement of cellular stations throughout a facility, which allows talent or crew members to move through hallways and studios while maintaining contact far beyond the range of a two-way system.

The company also showed its Eclipse 208 matrix intercom, which can handle a maximum of 240 clients, and new ECS software to allow one engine to control the configuration of all panels in a system.

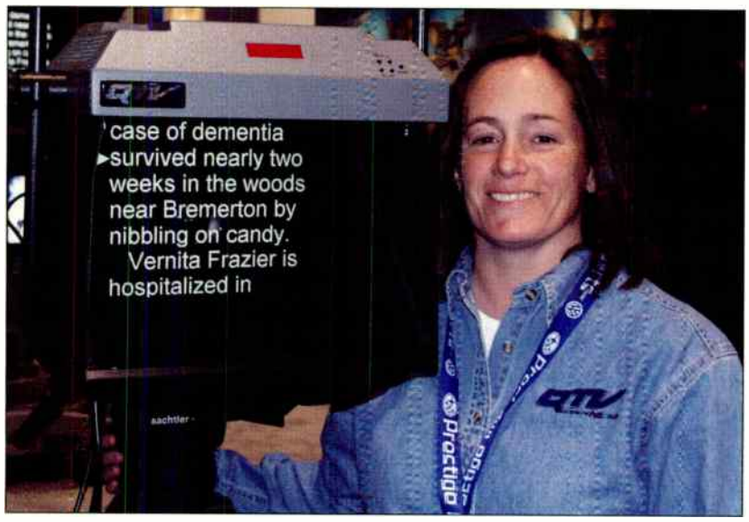
Riedel Communications introduced the Performer C3, a fully integrated, digital two-channel system for combined digital matrix and party-line style intercom. The system can be used standalone or in conjunction with matrix systems such as Riedel's Artist platform.

Riedel also debuted its Riedel 2000 Series control key-panels. Available in 19-inch/1RU and desktop versions, the panels feature eight-digit, high-contrast, full graphic LCD displays, showing label and cross-point level for each talk key. The company also showcased the DHY-101, designed to be compatible with all of Riedel's Artist Series intercom systems as a plug-in card for the 19-inch/1RU DHY-401 mainframe.

Telex Communications premiered its new voice over IP intercom technology with its RVON-8 (RTS Voice Over Network) card, which is plugged into the company's ADAM Intercom, supporting eight audio channels (ports) I/O. The RVON-8 card supports the G.711, G.729AB, G.723 (2 speeds), and G.722 protocols.

The company also showcased its new RKP-4 Four Button Wireless Keypanel Beltpack and RKP-4B Wireless Keypanel Base Station. The fully duplex, digitally encrypted wireless intercom provides communication directly to RTS Matrix communication systems.

Trilogy brought its second-generation Mercury IP intercom communications system, which uses voice over IP technology to connect the intercom over a standard CAT5 cabled data network instead of a specially installed matrix. The new Mercury system is built around a "Black Box 2" multi-function interface unit which can provide an interface between a standard intercom system and the data network.



Lisa Williams of QTV poses with the company's new FDP-12 prompter.

BAGS & CASES

Cine Bags brought its new CB-10, dubbed The Cinematographer to the show. The modular waterproof case has six padded compartments for light meters and other film making equipment, as well as a padded laptop compartment.

Kata has designed its backpacks to allow padded space for laptop computers, and feature both a rain cover and heat shield.

The company had new additions to its line designed specifically for the Sony HDV camcorders. Its TST (Thermo-Shield-Technology) is a lightweight solution to protecting video equipment from variation in temperatures.

Petrol addressed the need for HDV carrying cases with the HDV WingBag and WingRoll, two lightweight, versatile camera bags tailored especially for the new Sony HDV camcorders. The company also brought out a raincover designed especially to fit the Sony HVR-Z1U and HVR-FX1 HDV camcorders.

Porta-Brace had last year's hurricanes in mind when they developed the Storm Coat Extreme for video cameras. The Storm Coat fastens tightly around the front barrel of internal focus lenses, and has room for a cluster of microphones and other peripherals inside.

The company also introduced an assortment of new bags and cases designed specifically for Sony's new HDV camcorders.

Case Supplier returned to NAB with its wide array of case designs, ranging from roto-molded, vacuum-formed, injection molded, blow-molded, fiber and fabricated cases, as well as soft-sided bags and pouches. It featured its Kinetic Case, an injection molded case designed with a waterproof seal.

Hardigg Cases showed its Storm Case, designed to transport a wide range of equipment in hostile environments and extreme temperatures. The cases are lightweight, water-resistant, dent-resistant and touted as virtually unbreakable.

Niki Woodward of Libec sits amid a forest of tripods at the Libec booth.

NEW & INNOVATIVE

Joe Dunton Cameras presented its SCUBACAM waterproof housing, designed to hold most Sony, Canon, JVC and Panasonic mini-DV cameras, including the new Sony HDV camcorder. The soft-sided housing, made from heavy-duty latex, protects the cameras down to a depth of 22 feet and allows the operator to operate the camera's controls through the case.

The company also showcased its Hi-Def SCUBACAM, designed for portable size HD cameras. It is designed to protect the cameras to a depth of 13 feet.

Ewa-Marine introduced the VFX underwater housing, designed specifically for the Sony HDV camcorders. It has been tested down to 30 feet and also provides protection for chemical or bio-hazard situations. The VFX allows for use of the standard viewfinder or the large 3.5-inch LCD monitor.

Century Optics unveiled a new LCD Hood and an LCD Widescreen Magnifier for Panasonic AG-DVX100 and AG-DVX100A camcorders. The hood slips over a camcorder 3.5-inch diagonal flip-out LCD screen for glare-free viewing. The magnifier provides optical correction for a 16:9 image is squeezed onto the 4:3 LCD screen.

VFGadgets took the wraps off the Hang 'N Shoot, a versatile system designed to mount mini DV cameras such as Sony's new HDV camcorders to a vehicle. The unit allows for 3-axis movement plus 360-degrees of tilt for a large range of camera angles. The company also showed the UCM-Handle Bar Mount, designed to mount mini DV size cameras to bicycle handlebars.

Spider Support Systems returned to NAB with its modular camera and operator riser systems. Able to be stored and transported in compact cases, the Spider systems raise the camera and operator 24 inches above the crowd for clear shots.

ERG Ventures brought its new HDM-EV85 HD monitor designed specifically for Sony HDV camcorders. The 16:9 monitor can be powered off the same batteries as the Sony camcorder, and features an 8-inch screen. ■

World Radio History

TRANSMISSION

By Bob Kovacs

The past five years or so in the transmission sector of the industry have all been about evolution, not revolution. That was true again at NAB2005.

A few short years ago, vendors were quick to announce low-power solutions to DTV broadcasting using tried-and-true solid-state transmitters. This year, the push to high power is back, fueled by the evolutionary cost-saving attributes of the multistage depressed collector (MSDC) IOT, a high-power output tube that helps lower the recurring cost of electricity; not to mention FCC regulations.

Another trend in transmitters this year is improved control systems, often with an Internet interface that lets an engineer check and manage operation from anywhere there's a PC. None of these things are a revolution in transmitter operation but they do make a transmitter bought at NAB2005 more efficient and easier to control than one bought at NAB2000; there's much to be said for evolution.

TRANSMITTERS

New at the **Harris** booth was the Atlas Digital, a low- to mid-power solid-state UHF transmitter that's a close cousin to the Atlas Analog the company introduced a couple years back. For high-power applications, Harris showed its PowerCD, an IOT transmitter for analog and digital service that can be fitted with an MSDC IOT for greater efficiency.

Harris also displayed a test DVB-H system that broadcast streaming video to tiny handheld Nokia receivers. The system Harris showed used an 8 MHz channel in the 700 MHz range, and it had to be licensed especially for NAB2005.

Axcera display a transmitter with a e2v MSDC IOT at one side and an L-3 MSDC IOT at the other. From the company's Visionary line, this high-power UHF transmitter made the point that Axcera could work with either oil- or water-cooled IOTs, including MSDC IOTs.

Elsewhere in the Axcera booth, the company had a working DVB-H system for the transmission of streaming video to tiny mobile Nokia receivers, this time using a frequency at 1.6 GHz.

(L to R) Mark Strohecker of e2v discusses the company's ESCIOT transmitter tube with Mike Schwartz of Display Presentations.

Another evolutionary step was the use of MSDC IOTs for high-power analog broadcasting, which was featured at the **Ai** booth. Although MSDC IOTs have been known to provide great operating efficiencies for DTV broadcasting, Ai found a way to make it work for analog transmission and now has several analog MSDC transmitters up and running.

Thales Broadcast was showing its DCX Millennium high-power UHF transmitter for DTV. An upgrade to its DCX line, the DCX Millennium features the company's digital adaptive precorrection for maximum efficiency and lowest distortion, with an 8-VSB exciter that has a frequency tolerance of 1 Hz.

The company's new Advantage Digital transmitter was also at the show, featuring Thales' system that lets the IOT be swapped in as little as 15 minutes.

KTech Telecom introduced its HPA Series Digital Transmitters at the show. The KTech Xtreme HPA Series transmitter uses the L3 IOT CEA MSDC IOT tube, providing up to 60 percent overall efficiency, according to the company. KTech also announced at the show that the FCC has certified its Xtreme-2000 regenerative DTV translator for the U.S. market.

The news at **Larcan** was its Magnum line of UHF DTV transmitters, which provides a lot of solid-state power in a relatively compact space. The Magnum is available in a variety of power ratings, topping out at 20 kW.

The other highlight of the Larcan booth was the DTT500, a solid-state

Audio

CONTINUED FROM PAGE 120

of its flagship PM1D digital console. The new model has 20 new features, including automatic gain adjustment for systems using shared inputs, load filter for flexible file management and an enhanced event list that enables the timecode event list to match that found on Yamaha's PM5D console.

Yamaha also announced the delivery of five proprietary Add-On Effects for Yamaha's Version 2 digital mixing consoles.

SMALLER MIXERS

ATA Audio showed the Scoop-EZ portable audio/codec mixer for live broadcasts with the new tri-band GSM module. This module includes the 900-1,800-1,900 MHz bands.

Cooper Sound exhibited the CS 104 ENG style four-channel battery-powered mixer with transformer-coupled I/Os, mic and line gain selectors, polarity reverse on channels 2 and 4, mic power selectors, headphone jack and level control, 10-pin connector for hardwire to camera, mix bus connector to daisy chain units, tape and monitor inputs and tape out.

Henry Engineering added USB support for its StudioDrive small broadcast console that installs in a PC drive bay. The USB interface option allows StudioDrive to be used with a laptop or any computer without a sound card. StudioDrive-USB adds the mixing, monitoring and control functions of a broadcast console. The mixer includes six mic inputs, four stereo line inputs, program and record outputs, and a built-in phone coupler.

JK Audio showed its range of small portable mixers—RemoteMix C+,a combined audio mixer, headphone amp and telephone hybrid. RemoteMix 3 is a combined phone line hybrid mixer and universal handset interface, while the Sport model adds a third mic and headphone jack.

Lectrosonics announced the availability of its DM Series digital audio processors with LecNet2 control software. The DM Series consists of three automatic matrix mixers—the DM1624, DM1612 and DM812—differing only in inputs and outputs. Each model features a DSP-based crosspoint matrix, where any input can be routed to any or all outputs.

Renegade Labs debuted the Blue|328 8-bus digital audio mixer designed for NLE suites with its small footprint. It handles up to 32 inputs with a user-driven mix of AES/EBU, analog line and mic inputs, as well as HD-SDI embedded audio.

DIGITAL WORKSTATIONS

Apple introduced its Soundtrack Pro audio editing and sound design application. Soundtrack Pro features a waveform editor with Action Layers that allows users to instantly re-order, bypass or change any edit, effect or process.

Digidesign ProTools introduced Version 6.9 software that works with with Avid Mojo and Digidesign AVoption|V10 video I/O peripherals and the Avid Media Station|PT companion application. The new software supports the ICON D-Command tactile worksurface, with such features as inline console emulation, new automation features, and AFL/PFL Solo.

Euphonix demonstrated the System 5-MC, designed to interface to DAWs via high-speed EuCon or HUI control protocols. System 5-MC works with both PC and MAC based DAWs.

Eventide introduced the Anthology bundle of plug-ins for Digidesign Pro Tools TDM systems (for PC or Mac). Included in the nine plug-in set are the H3000 Factory and H3000 Band Delays.

Fairlight introduced the Dream Suite Package that includes a 48-track DAW, Station Plus automated 56 channel/24 buss surround sound mixing. Creamware plug-ins with 80 plug-in suite license, networking and Pyxis Pro NLV video system.

Fairlight Dream mixer/editor extended its plug-in options with the Wave Diamond Bundle that includes the Platinum, Restoration, and Transform bundles for a total of 35 signal processing tools.

Smart AV introduced the Elite Series Smart control console that features a touch-sensitive arc that can call up any of up to 96 channels to the operator. Smart AV is solely a control surface and interfaces via Ethernet to such systems as Apple Logic Pro 7, Merging Technology Pyramix, and Klotz Digital Vadis System. Available in 48 and 96 channel configurations, the console can be fitted with up to 24 physical channel strips and an optional Post Panel depending on size.

Solid State Logic (SSL) introduced Version 3 of its C200 digital audio console that supports a DAW control option. This provides direct control of the workstation from the C200 control surface, including plug-in access and editing control.

SSL also launched the AWSomation automation option for its AWS 900 analog workstation that uses a classic G Series style look and feel.

Sony demonstrated ProTools compatible Oxford plug-ins that including the Oxford EQ, Inflator, TransMod, Dynamics, and Reverb. Bundle options are also available.

Tascam premiered the X-48 hybrid 48-track hybrid hard disk workstation that consists of a hard disk recorder and GUI with editing features and plug-in compatibility of computer-based digital audio workstations. The X-48 features 96kHz/24-bit recording across all 48 tracks and 192kHz recording across 24 tracks.

RECORDING & PLAYBACK

Compact flash audio recorders made a splash at NAB2005. With many advantages over tape-based units such as minimal moving parts, longer battery time and depending on format, longer recording time, and compact flash files

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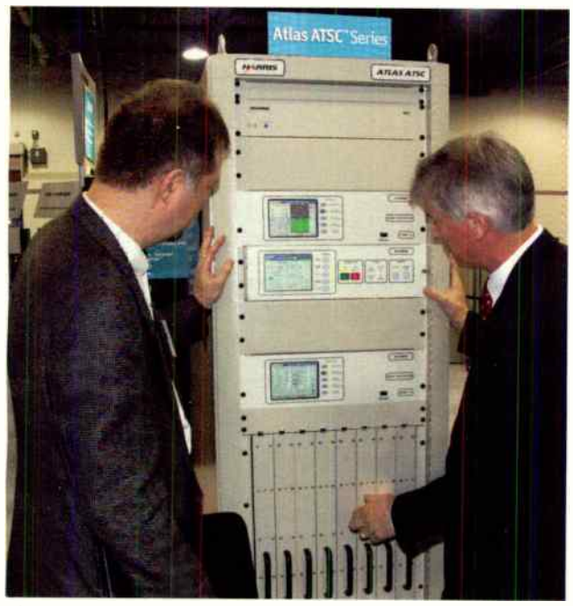


(L to R) Jeff Lexa of Bird Electronics watches Martyn Horsepool of Harris check the settings on the Harris Atlas ATSC solid-state transmitter.

digital UHF transmitter for low- to medium-power broadcasting that puts 500 W in a single equipment rack.

New from **Rohde & Schwarz** at NAB2005 was the Nx8200 family of solid-state, liquid-cooled transmitters that are available at power outputs up to 1.2 kW for DTV broadcasting. Keeping an eye on the system is the company's new NetCCU control system that lets the transmitter be monitored and controlled over the Internet.

The company's new SV800 ATSC exciter puts Rohde & Schwarz' well-regarded quality into a 1RU package, also with the ability to be monitored and controlled over the Internet.

DMT showed its new 8-VSB modulator for DTV, a 1RU model that can be used in low- and high-power applications. The company's flagship liquid-cooled solid-state transmitter is built up with 2 kW modules to a maximum of 20 kW for DTV operation.

Formerly known as Itelco, **Electrosys** was at the show with its new Multimode Exciter, which can operate in any of the world's television formats, including NTSC, PAL, DVB and ATSC. The company also showed its IOT line of high-power UHF transmitters for analog or digital broadcasting.

Pineapple Technology showed its UTX series of solid-state transmitters, which recently received FCC certification. The UTX series is modular and can be set up in a range of low-to mid-power outputs.

A new exciter and range of digital transmitters were the points of focus at the **Superior Broadcast** booth. The company has a new transmitter line featuring up to 20 kW of output power.

Armstrong demo-ed its SCT series of solid-state transmitters, which can provide up to 4 kW of analog power in a single rack. The SCT series is also approved for digital transmission.

With solid-state digital transmitters up to 10 kW, **Bext** was on-hand to explain its modular solution to finding the right power. In addition, Bext also has an IOT transmitter based on the Thales TH760 tube.

TUBES

The depressed-collector IOT seemed well-entrenched this year, with all vendors offering some version of this energy-saving technology.

e2v Technologies, which calls its tube the Energy-Saving Collector IOT or ESCIOT, told attendees that it has more than 25 tubes on the air. The company offered testimonials from broadcasters describing the power savings that stations were receiving with the ESCIOT, a water-cooled tube.

The news at the **L-3** booth was the company's newest version of its oil-cooled MSDC IOT, which it calls the Constant Efficiency Amplifier or CEA. The CEA 80A is designed for analog UHF broadcasting and provides significant energy savings when compared to a standard IOT. Also at the L-3 booth was the company's CEA 130D MSDC IOT for digital broadcasting.

CPI-Eimac showed its new K4D130 MSDC IOT, which is a water-cooled tube rated at 32 kW (average) for digital broadcasting. The company claims 57-percent efficiency in DTV operation for the new K4 tube.

Thales Components showed off its single-stage depressed-collector tube, the TH792, which was recently qualified by some transmitter manufacturers for use in their systems. The simpler demands of a single-stage depressed collector means that the tube and transmitter are less expensive than its multistage counterpart, while still offering enhanced efficiency from a standard IOT.

ANTENNAS & TRANSMISSION LINE

The news at the **Dielectric** booth regarded the company's antennas for the 700-MHz mobile media spectrum. The new 700 Series included slotted coaxial, panel and stripline antennas that can be horizontally, vertically, circularly or elliptically polarized.

Also in the company's booth were its wide range of television broadcast antennas and transmission line products.

Altronic Research was at NAB2005 with its line of dummy loads, including the newest addition to the line, the 6700D high-power, forced-air UHF load that can handle up to 15 kW.

Radio Frequency Systems (RFS) showed its waveguide switch for UHF TV, as well as its line of antennas, transmission line and RF components. In addition to being a manufacturer, the company also took the time to explain its installation and integration services.

Electronics Research (ERI) showcased its of waveguide UHF dummy loads and its new line of 700 MHz antennas for mobile media services.

Propagation Systems (PSI) showed a variety of RF products, including its hard transmission line that comes in sizes from 7/8-inch to 6.125-inch. Also on display was the company's USH line of high-power UHF antennas that support input power as high as 240 kW.

Myat showed its unique oval UHF waveguide transmission line. The company also displayed its new broadband UHF waveguide switch.

Sometimes it's the little things that count and SWR demonstrated this with a display showing the internal construction of its hard transmission line. The line's watch-band spring junctions have the ability to compensate for temperature changes and mechanical vibrations, minimizing reflected power.

Jampro showed off its JUHD UHF broadband panel antenna that is rated at 2.5 kW per panel. The antenna can be configured to provide various azimuth and elevation patterns.

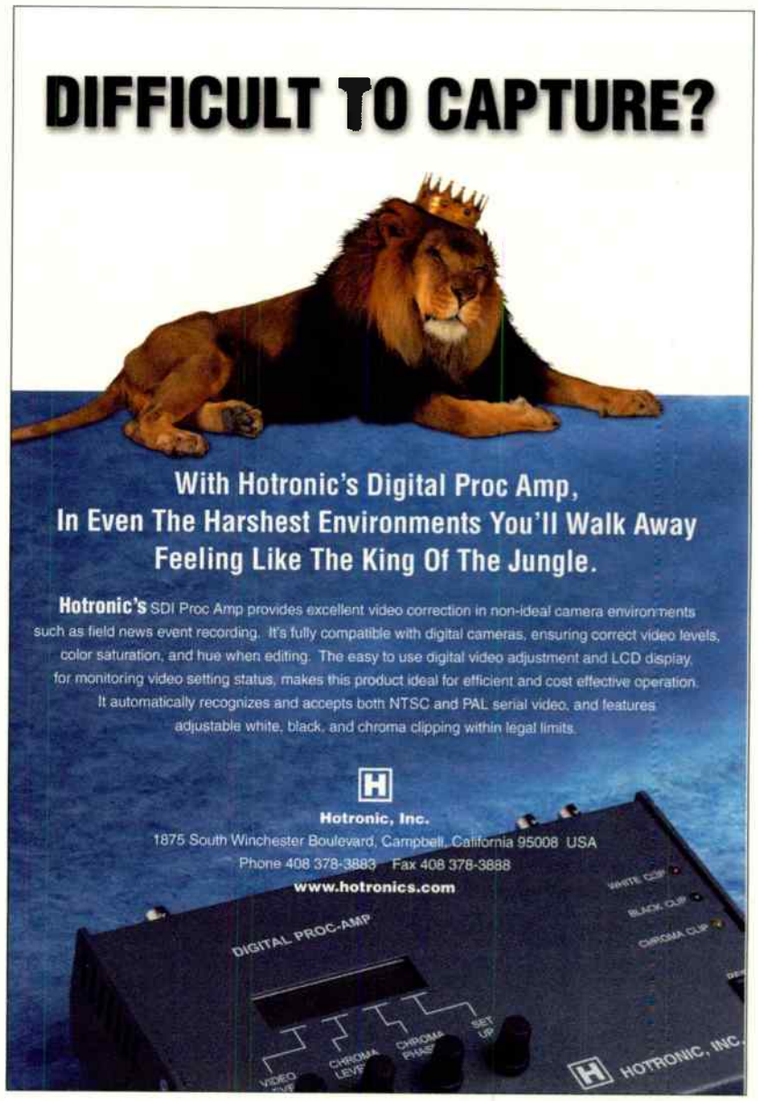
TOWERS

Radian promoted its turnkey tower services, including design, construction and RF installation. The company can also provide structural analysis of existing towers.

Flexing its muscles at NAB2005 was **Stainless**, which manufactures and installs guyed and self-supporting towers. At the show, Stainless launched its Express Analysis service that can quickly provide a safety, loading and historical analysis of existing tall towers. The service takes just 15 days.

Richland Tower was on hand to explain its operation of multitenant towers that eliminate the high initial cost of constructing your own tower. In addition to leasing tower space, the company can also provide signal coverage and interference analyses.

Although there were no surprising breakthroughs in transmission technology shown at NAB2005, it's rewarding to see that there is continual movement in the direction of greater efficiency and higher reliability. ■



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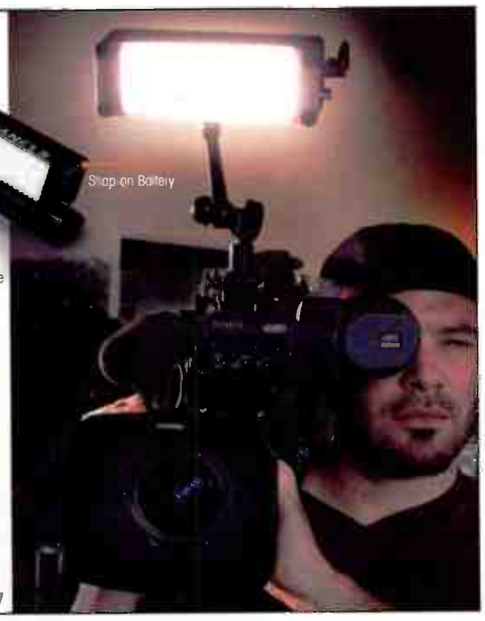

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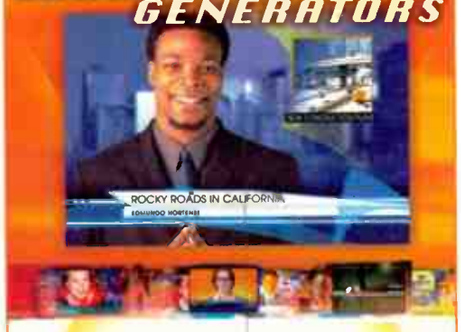

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PRODUCTS & SERVICES SHOWCASE

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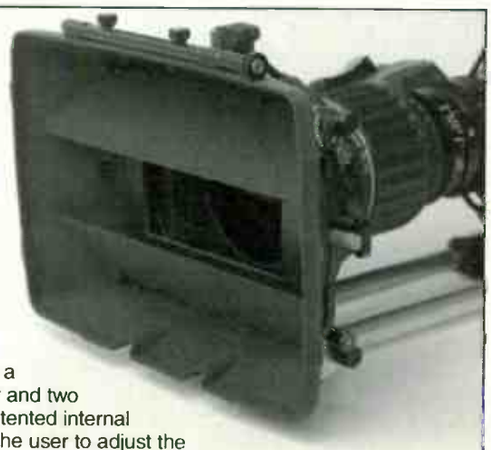

The new MB-350 wide angle mattebox from Vocas features two *independently* rotating filter trays and one non-rotatable horizontal tray. It can accept an additional 4x5.6" filter in the hood for a total of four stages! This fourth stage can also be used with a variety 4:3 or 16:9 mattes.

For lenses wider than 5.0mm the mattebox can use a 4.5x4.5" rotatable filter or one 4x4 non-rotatable filter and two horizontal filters. The patented internal eyebrow system allows the user to adjust the matte or mask to the zoom position of the lens. The MB-350 can be used as a clip-on mattebox or may require the MBS-100 support and bars adapter for use with standard 15mm rails.

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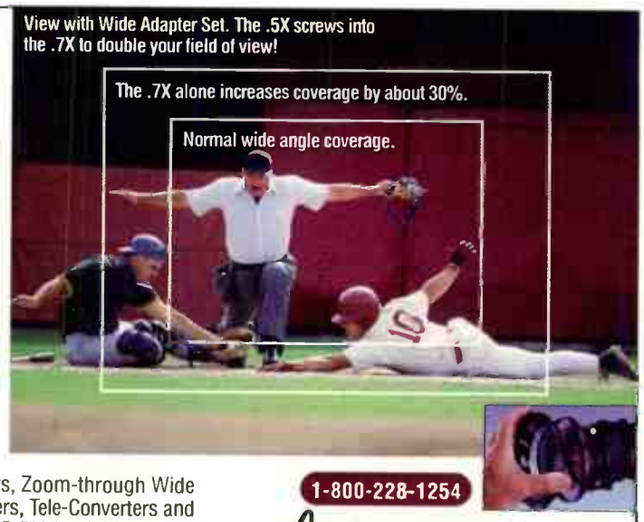
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The Video Processor/Noise Reducer **Model VP100** with the **VIP** engine provides the same noise reduction as the Model VP10. In addition it provides means to correct color phase and chroma gain, Y/C delay errors, differential gain, HF response and video level. At **$1995** it's a great buy.

The NTSC Color Corrector **Model VP900A** is now available with the **VIP** engine. The Color Corrector permits control of chroma gain and phase, plus fully independent adjustment of R, G, B levels and pedestals. Priced at **$1995** with the **VIP** engine, or at **$1250** without **VIP**.

For the ***ultimate in compression quality and efficiency*** we are offering the **Model VP3000 Pre-Compression Processor**. Based on the teachings from 5 different Patents, it provides superior luminance/chrominance separation, linear color demodulation, **VIP** technology at 12 bit accuracy, multidimensional correlation filtering for impulse noise and dropouts removal, analog and digital input and output interfaces. Priced from **$2795**.

Other **VIP** products include the **VP50 Ghost Buster**, the **VP700 Color Decoder**, the **HQ** and the **VP1000 Picture Quality Restorers**; the **SDI-10 Digital Noise Reducer**.

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World Radio History

GRAPHICS

BY GEOFF POISTER

Graphics technology developers showed advancements in virtually all product lines at NAB2005, but the HD market was particularly targeted.

GRAPHICS & ANIMATION

Pinnacle Systems extended HD across its entire Deko range of products, in line with its "PracticalHD" philosophy. Pinnacle 1000HD offers 2D motions and effects, clip playback with matte and a feature called "Unique SuperChannels" that allows one channel to do transitions from one graphic to another, with video clip and key.

Also new is Deko3000HD, Pinnacle's real-time HD character generator with 3D effects as well as Pinnacle Deko, Version 4, offering dual HD/SD compose.

Boris FX introduced Boris Blue, a real-time 3D compositing and motion-graphics application combining multiple shapes including 3D models. The company also premiered Volume II of Boris Continuum Complete for Discreet Sparks and showed Boris Continuum Complete AVX running on AVX 2.0, the latest version of the effects plug-in architecture from Avid.

GenArts showcased its Sapphire Plug-ins, a collection of more than 175 state-of-the-art image processing and synthesis effects that integrate into almost any NLE on the market, including Adobe After Effects and Premiere, Apple Final Cut Pro and Avid.

e-mediavision.com launched Point-HD, an HD broadcast graphics presentation system for sports, news and weather. Point-HD works in HD and SD as well as allowing simultaneous dual-format programming in 2D and 3D.

For-A digiStorm HD debuted at the show. With on-air graphics developed in collaboration with Brainstorm Multimedia eStudio virtual studio software program, digiStorm HD simplifies virtual studio and graphics creation by integrating the functions of a variety of devices, including chromakeyer, switcher, camera calibration software and numerous plug-ins.

Post Holes introduced three new libraries of royalty-free, pre-matted stock clips. All clips are full-motion video clips originated in HD.

Known for its Jump Backs, **Digital Juice** introduced VideoTraxx royalty-free stock footage; StackTraxx customizable production music; and Editor's Toolkits, complete graphics and effects post-production editing packages.

Capital Networks exhibited Audience, a standalone or bundled product for a range of content creation, distribution and display applications.

At the **Eyeheight** booth, the company unveiled its SQ-2E 2D digital video effects system with integrated keying.

eyeon Software showed Version 5 of its Fusion compositing technology.

Expanding its training programs, **Future Media Concepts** offered extensions into Avid, Apple, Adobe, Macromedia, Boris, Digidesign, Discreet, NewTek, Softimage, Maya and Quark.

Peggy Stalhut of Chyron prepares to demo the company's Duet HyperX HD/SD graphics system with Lyric 3D+ software.

VertigoXmedia partnered with Matrox to supercharge the new VertigoXG family of real-time broadcast graphics systems. VertigoXG provides single- or dual-channel graphics and video playout capabilities for a range of advanced real-time broadcast applications. Producer Xmedia Suite includes new features that further streamline the graphics production workflow.

Crystal Vision launched the Safire HD chromakeyer, featuring both additive and multiplicative keying.

Mics

CONTINUED FROM PAGE 121

Evolution 904 drum instrument mic features a high mass metal chassis. The Evolution 905 is designed as a snare drum mic. The Evolution 906 boasts a switchable presence filter at 4.2kHz with three different sound characteristics—bright, in-between and warm. The Evolution 908 is a triple variant electret condenser, super-cardioid, gooseneck mic for brass and percussion. The Evolution 914 is a modular electret, condenser mic for symbols, hi-hats, pianos, acoustic instruments, choirs and orchestras.

Shure exhibited some of its classic mics as well as demonstrated newer models. These include SM63 and VP64A handheld mics, SM89 shotgun, KSM series of studio mics, MC50B and MC51B subminiature lavaliers, SM93 micro-lavalier, SM7B studio mic, and the SM2 headworn mic.

Sony displayed the F-112 dynamic omni for ENG and field production and available with an optional plug-in transmitter as part of the UWP-C3 package. The ECM-678 and ECM-674 electret condenser super-cardioid mics can be attached to a camcorder such as the Sony HDV, DVCAM, and XDCAM.

WIRLESS MICS & SYSTEMS

AKG announced that it is now developing products compatible with HIQNet, Harman Professional Group's proprietary audio system configuration, control and monitoring network. The first on the list are the WMS. 4000 multi-channel wireless mic system with the HUB 4000 Q network concentrator. A single HUB 4000 permits up to eight WMS 4000 systems to be controlled and monitored simultaneously.

Audio-Technica exhibited the new 2000 Series UHF diversity 10-channel frequency-agile UHF wireless microphone system, with automatic frequency scanning and digital Tone Lock squelch, and LCD information display. The system has two versions: the ATW-2110 UHF UniPak transmitter system and the ATW-2120 UHF handheld dynamic microphone system.

Electro-Voice displayed the RE97 wireless headworn mic, a low profile omni mic wired for use with EF and Telex bodypack transmitters via a four-foot cable terminated in a TA4F connector, and available in beige, tan or black.

Lectrosonics showed its Venue Receiver System, a modular UHF design that operates with Digital Hybrid Wireless transmitters, and a variety of analog transmitters. The receiver uses a mainframe assembly that includes an antenna multi-coupler, computer communications interface and mechanical rack mounting for up to six receiver modules.

Lectrosonics also introduced a new receiver module with tracking front-end filters for its Venue modular system. The company also upgraded its MM400A transmitter to the MM400B to include a waterproof corrosion-resistant case, programmable switch, a steel cable battery door retainer and an IFB compatibility emulation mode.

Also new in the Lectrosonics booth was the IS400 Digital Hybrid Wireless Instrument System, introduced earlier this year. Designed for use with both electric and acoustic instruments, the IS400 uses a proprietary digital algorithm to encode the audio signal into an analog format for transmission along an FM wireless carrier. Lectrosonics introduced the SM (for "Super Mini") wireless transmitter for audio. When used in its native Digital Hybrid(tm) mode, the SM doesn't need a compandor or pre- and de-emphasis found in most analog systems.

Quantum 5X exhibited in the **vfgadgets.com** booth with its QT-256WP a waterproof version of its QT-256 professional belt-pack transmitter. The frequency agile QT-256WP transmitter has companding, pre-emphasis and provides high quality broadcast audio.

Sennheiser premiered the ASA3000, an active antenna splitter for multi-channel wireless microphone systems. Previously only available as a bulkier, customized unit, the new streamlined ASA3000 single rack space device can be used to combine up to 16 channels of Sennheiser 3000 Series receivers, configured as eight EM3031 single channel, eight EM3032 dual-channel or EM3532 dual-channel true diversity receivers.

Sennheiser also launched the AC3000 active UHF antenna combiner for wireless monitoring applications.

Shure made back-to-back introductions of its SLX and PGX wireless microphone systems and showed the UP4 UHF and VP4 VHF receivers for videographers.

Sony showed the UWP-C3 UHF PLL-synthesized wireless microphone system, a turnkey package consisting of a newly developed plug-on transmitter to convert a wired microphone into a wireless one, a portable tuner, and accessories required for the use of these components.

Zaxcom introduced the TRX900 digital wireless body pack microphone transceiver with built-in IFB. In the TRX910 variation, the body pack functions as a wireless transmitter with the capability to receive IFB and remote control commands. The TRX900 also has an optional integrated audio recorder for up to 1.5 hours. Audio is recorded and played back via commands from the IFB900 transmitter.

MIC ACCESSORIES

AKG showed a new 48 V adapter that enables the B 18 battery supply to deliver the 4 mA of 48V phantom power needed for the C414 B XLS and other C 414 BXL models.

DPA Microphones displayed the Windpac, an ultra-lightweight mic windproofing device that consists of a shock mount and a collapsible zeppelin-like windshield made from a nylon-fiberglass composite/coated polyester. ■

World Radio History

da Vinci Systems unveiled its new 2K Elite Series, which provides three distinct upgrades. The company added new features for the Resolve nonlinear color enhancement family and new upgrades to the revival restoration system.

Vista Systems showcased Spyder, a small, flexible real-time compositing and windowing system.

Silicon Graphics (SGI) rolled out its Silicon Graphics Prism visualization system, offering a more compact open architecture that can handle the 4K requirements of digital cinema mastering and digital intermediates.

New to the HDV line is the **Adobe Systems** HDV Plug-in for Adobe Premiere Pro 1.5.

Brainstorm Multimedia launched several products, including Brainstorm eStudio real-time 3D graphics single application for virtual reality, multiple-display presentations, and Brainstorm M3, an advanced, multiplatform, real-time 3D graphics presentation tool.

SilhouetteFX debuted Silhouette Roto, a standalone or After Effects plug-in rotoscoping solution.

The Foundry introduced Furnace plug-ins, including motion-vector retiming and texture tools; Tinder plug-ins; Keylight keyer for tackling reflections, semitransparent areas and hair; and the Anvil collection of color correction and color manipulation tools for Discreet Advanced Systems.

Particle effects specialist **wondertouch** introduced wondertouch Emitters for Apple Motion that deliver a range of particle content. Also new was particleIllusion 2.0 SE for Mac OS X, a standalone, introductory version of the company's sprite-based particle effects application.

Bauhaus Software introduced Studio 1.5 with powerful new animation functionalities.

Matrox Graphics introduced the new Millennium P650 LP PCIe 128 graphics card.

3D ANIMATION AND CG

Discreet rolled out Combustion 4 for Windows and Mac, featuring tools for visual-effects creation. For 3D modeling and animation, 3ds Max 7 includes Cloth Extension for advanced clothes modeling. Discreet also offered Lustre 2.5, a high-performance digital intermediate system for 2K and 4K color grading and look creation; Inferno 6, for fast, interactive creative design; and Flint 9, an advanced motion graphics and broadcast design system.

Compix Media launched Cynerg, a newly enhanced multichannel CG system for 3D animations.

New from **Vizrt** was Viz|Trio 2.2, an HD/SD real-time 3D CG and graphics system, which supports all HD formats and includes a new internal compositing tool.

Chyron had several new offerings for its Duet line. Duet HyperX is now SD or HD switchable. Duet LEX boasts improvements, as does Duet LX and Duet MicroX. The company also introduced X-Clyps, supplying hours of HD clips in compressed storage. Chyron also unveiled Lyric 3D+, its most advanced CG software to date. Other introductions included DynaCrawl, CodiStrator and ChyTV.

Keywest Technology rolled out the upgraded MX5 Plus, available in two versions: the MX5 Plus HD and the MX5 Plus Key. Both offer the multimedia messaging control functionality, powerful character generator and seven independent element layers of the original MX5. The company also unveiled an enhanced MX3 with a new graphical user interface.

Leitch Technology hosted its latest acquisition, **Inscriber**, in its booth and showed IncaStation, an on-air system combining logo, multiple real-time data crawls and DVE capability. Also out was InfoCaster, which creates a multizone on-air look for digital signage; IncaRTX HD, a real-time 2D/3D graphics, video and clips platform; and Inca Studio HD, with HD capabilities.

Just Edit showed vsnlg for logo insertion; vsncg advanced automated character generator; and vsncg plus, a ticker system with video resizing and external data interface.

Orad Hi-Tec Systems highlighted Maestro, a turnkey HD/SD switchable 3D character generator and on-air graphics solution. The company also introduced HDVG, offering accelerated rendering for SD and HD graphics.

Pixel Power announced its new HD Clarity platform, the Clarity5000, which offers HD functionality to the Clarity500 range of character generators. Other new products included the Clarity300 single-channel expandable CG.

WORKSTATIONS

Dayang International debuted its D3-CD-HD, a 1,080-line HD version of the D3-CG dual-channel CG.

Cinegy introduced eXtreme 7, a post-production solution for creating effects or multilayer compositions.

The latest version of the **Quantel** Paintbox got its first public showing in the U.S. at NAB2005. Paintbox is now available in three versions: Paintbox, Paintbox gQ featuring additional Quantel hardware for HD and the software-only Paintbox. Also new is Picturebox sQ, providing an integrated approach to the creation, playout and management of graphics, and Color Excel, boasting unprecedented intuitive color correction.

OmniBus announced that it was partnering with **Miranda** to provide advanced graphics management for Miranda's Presmaster/Imagestore master control and branding graphics systems.

VIRTUAL SETS/TRACKING

Nvidia debuted Quadro FX 4000 SDI for use in virtual sets, sports and weather news systems to composite live video footage onto virtual backgrounds.

For those seeking a complete turnkey multicamera system, **Hi-Tech Enterprises** introduced a package that includes a trio of Sony BRC-300 fully robotic three-chip cameras with full installation and training.

Serious Magic introduced ULTRA 2, standalone software that creates 3D virtual sets from simple blue-screen keys.

WEATHER & TRAFFIC

WeatherData unveiled SelectWarn, an intelligent warning system that monitors multiple threats simultaneously and lets public safety managers warn only those areas actually threatened. The company also showcased Storm Hawk, the first mobile GPS-enabled moving map with weather forecasting capability. The handheld system provides real-time and forecast weather for any location and travel route.

AccuWeather showed its improved Galileo, which adds special animations. The company also showed Wireless Weather, a brandable cell-phone application, and StormTeam Live, which enables integration of national weather experts into local coverage.

Curious Software unveiled CuriousTraffic Producer for creating maps to illustrate traffic reports using pre-defined design templates; Curious Map Presenter and Curious News Producer allow direct creation of maps.

The Newsroom Solutions NewsTicker shows automated and manual ticker content, school closings and severe weather on primary and digital channels without requiring stop-and-start multiple programs.

Triangle Software debuted a video workstation for real-time traffic reports with customizable, traffic animations; BeatTheTraffic3D can produce compelling 3D traffic animations overlaid on 3D terrain, and TrafficOnDemand offers traffic data service on-demand.

In the studio graphics arena, **Vizrt** brought out Viz|Trio 2.2, an HD/SD real-time 3D CG and graphics system that supports all HD formats. Also on display was Viz|Weather Version 1.6, 3D real-time weather software for the creation and playout of weather-related graphics. Viz|Content Pilot, Version 4.1 features full support of Vizrt Look Ahead transition logic for seamless and automatic transitions between multiple layers of graphics.

Weather Central returned with its Genesis, MetroVision and MicroCast weather graphics applications as well as a significant new product launch.

WeatherBug released WeatherBug Zoom 2.0, its next-generation all-digital, on-air live weather display system. ■

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Test

CONTINUED FROM PAGE 116

the DTS product line.

DTVinteractive demonstrated DMB/DVB-H test and measurement systems for receiver development. The T-DMB analyzer analyzes a stream from a DMB reference board and decodes H.264/BSAC in real-time and also analyzes errors based on MPEG TS ETR290 first, second, and third priorities.

IneoQuest Technologies introduced the Media Delivery Index (MDI), a tool to measure an IP networks' dynamic performance in delivering media (including voice and video) payload from source to destination. Instead of relying on subjective human observations, this index is designed to provide a reliable, predictable, and repeatable measurement to ensure desired quality. IneoQuest also released the IQSoftwareSuite, an extended set of analysis, monitoring and generation test tools for quality testing of streaming media.

K-Will exhibited a variety of its video and audio quality automated monitoring and transport stream monitoring equipment.

In the former category are the QuMax-2000 and Video DNA Analyzer software. For transport stream monitoring are TSI-2000, T-Max, TS-7805, and MEVA software. The TSI-2000 provides real-time assessment of the quality of MPEG-2 transport streams, while T-Max performs error detection.

Leader Instruments introduced a new MPEG card option, the LV 57SER60, for its LV 5700A Multi-SDI monitor that monitors waveform, vector, picture and audio of a selected program within an MPEG transport stream.

Pixelmetrix launched ConsolidatorPlus management and report control system for DVStation. ConsolidatorPlus uses the SNMP connectivity built into every DVStation to collect and consolidate measurements, telemetry and alarms. The multi-level GUI shows network status in the shape of each network, such as via maps, network diagrams, or by rack layouts.

The Pixelmetrix DVStation now sup-

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ports the DVB-H standard with software version 4.7. DVB-H adds two tables to the SI (Systems Information), one for controlling downloads and the other for identifying IP and MAC addresses of the terminal device.

Other new products for the DVStation line include DVStation-IP Portable, a standalone analyzer used to sniff out video traffic on any set of IP address pairs, extract the MPEG-2 transport stream and perform MPEG-2 verification; DVStation-IP Qube, an MPEG monitoring companion to the IneoQuest Singulus G1-T and IQMediaMonitor IP test and monitoring products; and DVStation DTA, a software package that allows users to apply all DVStation MPEG analysis features off-line to transport files captured by IneoQuest IQController software.

Pixelmetrix also launched a 2 TB transport stream recorder for its DVStor products. The DVStor 4U/2000 continuous TS recorder and player can record up to five days for satellite or up to 10 days for terrestrial transmission.

Also new in the Pixelmetrix booth wasthe VISUALmpeg family of PC-based analysis tools for evaluating and testing MPEG-based advanced coding. Models are available for MPEG-2 and H.264/AVC.

Sencore showed the result of recent collaborations as well as new products of their own design.

Sencore and Bridgetech introduced VideoBridge video over IP test systems that support H.264/AVC, WM9/VC1, and MPEG-2 HD/SD through a Web browser interface. The VB100 can monitor up to 120 multicasts, while the VB10 is a portable unit. The new VideoBridge generator provides a range of packet engines for generating test streams to all standards.

Sencore also demonstrated the MAP1850 MPEG Service analyzer with standard inputs for broadcast, cable, or telco. Through the Web-based interface, the unit can be used locally or remotely to see the video, parse out the contents, and analyze MPEG transport streams for such parameters as individual PID/TS descriptors and data rates, all of the table data, packet loss, timing jitter, repetition rates, and more.

Sencore also introduced RF and IP interfaces to the TSM1770 real-time multi-service MPEG analyzer. The RF interface measures such parameters as MER, EVM, level, and pre/post FEC BER. The IP interface scans the IP input for available multicasts, measures jitter, packet loss and other physical level parameters. Also available for the TSM1770 is the MPEG Service Profiler and scheduled monitoring features that allow creation of profiles for each service through a Web based interface.

Sencore also debuted the Atlas MRD 3187 receiver system with a variety of interfaces that permit viewing on a video overlay such items as all of the tables present in the stream, video and audio bit rates, aspect ratio, and native format of the incoming video.

Rohde & Schwarz debuted two new DVB-H options for its test and measurement equipment—DV-ASC advanced stream combiner software and the SFL-T standard compliant test transmitter. The R&S DV ASC generates custom transport streams in the DVB-H format for all Rohde & Schwarz generators (R&S DVG, R&S DVRG, R&S DVM400 and R&S SFU with the generator option), and predefines typical DVB-H parameters such as time slicing, FEC, padding and puncturing. The R&S SFL-T TV test transmitter tests digital terrestrial TV receivers and receiver modules.

(L to R) Danny Wilson of Pixelmetrix shows the company's DVStation-IP portable test set to Mark Ireton of St. Louis University.

Rohde & Schwarz added new options to its SFU TV measurement platform. The SFU-K41 phase noise option allows the SFU to precisely simulate the use of cost-effective oscillators. The SFU-K42 impulsive noise simulation option tests the effects of switching noise receiver modules. The SFU-K21 TS recorder is used for recording and replaying MPEG-2 transport streams up to 214 Mbps. The SFU provides high precision standard signals, permits signal modifications up to the system limit, and can insert defined errors.

Rohde & Schwarz also showed the DVM family of MPEG-2 monitoring and analyzer instruments with new options. The DVM-K11 DVB-H time slice analyzer extracts DVB-H data in real-time. The DV-ESA option performs a detailed analysis of MPEG-2 video elementary streams and visualizes and evaluates the motion vectors of individual macroblocks. New R&S DVM50, DVM100 and DVM400 base units include the media player and write-to-file functions.

Tektronix introduced the K15 version 2.1 for wireless network monitoring that analyzes H.324M video telephony quality of service by monitoring the UMTS core network IU-CS interface. Tek also demonstrated the MTS400 Series Compressed Video Test System that automatically monitors, analyzes and debugs live and deferred time video transport streams. The company also showed support for the new VC1 advanced compression video codec in the MTS4EA Video Elementary Stream (ES) Analyzer. It also provides complete elementary stream analysis support for MPEG-2, MPEG-4, H.264/AVC, H.261, H.263, H.263+ and 3GPP standards.

Triveni Digital debuted the iScope ARTE (Automated Receiver Test Environment) for automated testing and validation of OCAP/ ACAP/MHP applications on a variety of set-top boxes and receivers.

The Triveni Digital StreamScope MT30 now features closed caption, ASI playout, GigE analysis with PCR, and template-based verification. The MT30 is also enhanced with a fifth generation 8-VSB receiver.

RF

Fluke displayed its wide array of handheld meters including the new ScopeMeter 190 Series that ranges from 20 to 200 MHz and provides FFT spectrum analysis, cursor-limited automatic measurements and deeper waveform memory to allow as many as 3,000 samples per channel to be acquired.

Modulation Sciences introduced the msi 4400 8-VSB analyzer which allows for Web-enabled remote operation as standard. Multiple users can log onto the system simultaneously, with one user having control.

Potomac Instruments introduced the PI 4100 for direct measurement of electromagnetic field strength in the 530 kHz to 5.1 MHz spectrum. This compact portable instrument combines a laboratory quality RF voltmeter, a calibrated shielded loop antenna, internal GPS receiver, internal calibration source, and Microsoft Excel compatible data acquisition software.

The new **Sencore** DTU-234 RF Probe is an RF demodulator to USB2 adapter that provides tuning from 50-870 MHz, and acts as an MPEG transport stream capture tool. RFXpert software provides average channel power and peak carrier power measurements (depending on the demodulated signal), and also MER, EVM, margin, pre/post FEC BER measurements. Sencore also launched the SLM 1456 RF channel signal analyzer with spectral display with analog and digital measurements.

Rohde & Schwarz launched the FSH3-TV handheld TV analyzer complete with a full-featured spectrum analyzer and a TV test receiver. The analyzer comes equipped with a TV board, a preamplifier and a tracking generator. It supports all common analog TV standards such as B, G/H, D/K, N, I, L, M/NTSC and M/PAL, and can be upgraded any time for DVB-C, J.83/B or ATSC/8-VSB.

Statmon Technologies introduced its EIF-32 Standalone Remote Control and Monitoring Interface at the show. The IEF-32 is an intelligent interface with a built-in CPU that provides automated monitoring and control of remote equipment at transmission sites.

Statmon also has upgraded its UIF-32 Universal Interface to connect a wide range of devices (up to 96 channels) via serial or TCP connection on WAN, LAN, Internet, at a transmission facility site. The company also announced a partnership with Pixelmetrix to develop a unique control, management and test measurement solution based on Statmon's Axess control and facilities management platform and the Pixelmetrix DVStation preventative test and measurement line.

Tektronix expanded radio frequency (RF) input options for the MTM400 MPEG Transport Stream Monitor to supplement its digital interfaces. The MTM400 now supports RF monitoring and testing such RF modulation schemes as COFDM, 8PSK, QAM-B and 8-VSB.

Z Technology introduced the DTV1010 DTV measurement receiver that monitors off-air or high level ATSC/8-VSB transmissions. Features include calibrated RF and data parameters, time-plotting of the same, and 4 MHz and 44 MHz IF outputs for lab reference. The DTV1010 is based on Z Technology's RF measurement front end and uses technology licensed from Tektronix.

RF-MeterMate is Z Technology's newest Windows based software application supporting its R-506 and R-507 programmable RF Field Strength Meters. The application, running on an attached PC, sets up the frequency, applies an antenna factor input by the user, and makes measurements on a single frequency as quickly as every 200 ms.

Z Technology also demo-ed the R507DTV RF field strength measurement package. The system comes with Z Technology's Spectrum Display software for measurement of DTV integrated power over the full channel bandwidth. Also new was the DSS5800 automatic drive test system with 8-VSB decoding. The system includes the factory installed Drive-Test Automated Measurement Program that integrates three separate yet related features: data collection, dot plotting, and swept display analysis. ■

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Audio

CONTINUED FROM PAGE 146

can be easily transferred to a computer. Other formats were in evidence as well.

Edirol Corp. announced that the R-4 4-channel portable digital recorder is now shipping, and has been expanded to include support for Broadcast Wave Format file (BWF).

HHB launched the new V1.40 Portadrive software, which includes enhancements like disk mirroring, USB target mode, full iXML support and improved auto-shutdown modes.

Marantz Professional exhibited its new PMD660 compact digital field recorder which uses a standard 1 GB Compact Flash media card and can record uncompressed WAV files at 44.1 or 48 kHz, and MP3 files in mono at 64 kbps or stereo at 128 kpbs. The unit also includes two built-in stereo condenser mics, mic and line connectors, one-touch recording, and editing firmware.

Marantz also showed the PMD671 Compact Flash recorder with virtual third head confidence monitoring, time-shift playback, 24-bit 96 kHz PCM recording, and new mic preamps.

Otari displayed the DR-100 48-track audio disk recorder with new Version 2.0 software. The DR-100 features 24-bit 44.1/48 kHz sampling for 48 tracks or 24 bit/88.2/96 kHz sampling for 24-track.

Sony demonstrated two new mini-disc recorders, MZ-M100 and MZ-M10. The MZ-M100 has an electro-luminescent display and is bundled with a stereo mic. The unit, which has stereo line and mic inputs, can record in the mini-disc format or linear 16-bit PCM audio at 44.1 kHz on 1 GB HMD media (94 minutes of PCM). The MZ-M10 has a standard LCD display. Both units come with USB to transfer files to a computer.

Sound Devices showed the four-track 744T and two-track 722 HD digital field recorders that write and play audio files in 16 or 24 bit and up to 192 kHz sampling rate. Also included is ambient time code, internal hard drive, and Compact Flash removable media.

Tascam premiered the X-48, a 48-track hybrid hard disk workstation complete with a GUI for editing and plug-in compatibility of computer-based digital audio workstations. Tascam showed other new recorders as well. The MD-CD1 mini-disk recorder combines CD playback and MiniDisc recording in a single rackmount unit. The new DV-RA1000 recorder is designed for recording high-resolution stereo audio to inexpensive DVD media.

PROCESSING

Dolby Laboratories demonstrated the end-to-end process of broadcast audio delivery for HDTV by terrestrial broadcast, cable and satellite networks using Dolby products. Dolby also showcased Dolby Digital Plus and the Dolby Digital Cinema system.

Eventide introduced the BD600 broadcast delay that provides MicroPrecision Delay—10-second delay with superfine adjustment down to 100 nanosecond increments—and up to 80 seconds delay protection.

(L to R) Scott Laird of KSAT watches a demo of the Wheatstone D-9 console from Brad Harrison.

eyeheight showed the shuftie SDI audio shuffler and level controller. The unit allows any incoming AES/EBU and SDI-embedded digital audio channel to be switched to any outgoing channel. A total of four stereo channels can be manipulated with independent level control for each input channel and output stream.

Fairlight unveiled its HD Sync separator card for its QDC (Quad Digital Channel) platform. The card provides tri-level sync capability to the QDC host audio engine, enabling systems to operate at 24 and 23.98 frame rates while referenced to a high definition tri-level video sync.

Harris and Neural Audio have formed an alliance where Harris is marketing products developed by Neural Audio. The MultiMerge processor passes through 5.1 audio, but upconverts stereo to 5.1. Mono or pan-pot stereo images in front, while stereo containing depth information will become part of the surround. The 5225 UpMix renders any two-channel audio source as surround sound. The 5225 DownMix can represent six channels of discrete audio sources in a stereo down mix by transforming the source positions into pure intensity and coherence.

Linear Acoustic exhibited a variety of products including the Model LA-5421 StreamStacker audio bitstream multiplexer, LA-5124 StreamStacker de-multiplexer/AC-3 splitter, the new LA-5124 with AutoNorm automatic dialog normalization system, OctiMax 5.1 DTV audio processor, and upMax 2251 5.1 channel surround-field synthesizer.

The Linear Acoustic LA-5124 with AutoNorm generates audio loudness metadata for 5.1 surround. The LA-5124 is able to "read" the DialNorm parameter and automatically insert it into the AC-3 stream without having to decode and re-encode the signal.

SRS Labs demonstrated new enhancements to its Circle Surround products including the Xtract 6.1 surround utility that converts mono or stereo to 6.1 channels. It also provides a real-time music monitoring mode for CS-encoded music.

Symetrix introduced the next upgrade to the SymNet series with the 5.0 version of its SymNet Designer application for Windows. Included is support for SymNet Express and hardware units which now return to the last state when the power is cycled on and off. Symetrix also released Studio Matrix Designer software version 2.0 (for Windows) for the AirTools Studio Matrix series of audio DSP. In addition, the company exhibited a new product in its AirTools Studio Matrix series of modular audio DSP, the Orion 8x8 analog I/O DSP.

t.c. electronic introduced the DB-4 and DB-8 TV transmission audio processors for real-time loudness control and format conversion. The DB-4 has two processors inside the unit, while the DB-8 has four. One DB-4 can apply different processing to four mono, two stereo or two 5.1 signals or a combination.

Yamaha Commercial Audio added upgrades to its DME24N and DME64N programmable DSP processors with Version 1.1 software. The free downloads provide approximately 30 improved features. New components include an SPX-type processor with up to 43 four-stereo SPX series effects similar to those found on the DM2000 digital mixing console.

LOUDSPEAKERS & HEADPHONES

AKG introduced the K206afc cordless rechargeable headphones. Operating on UHF, these stereo headphones use a PLL-synthesized radio section for use up to 150 feet from the base station.

AKG also showed the K28NC mini-headphones with active noise cancellation, along with the K12P and K14P ear bud models, and the K24P and K26P mini-headphones.

Genelec exhibited a wide range of its active monitor loudspeaker systems. The 8130A digital monitoring system has a 192 kHz/24-bit digital audio interface, AES/EBU digital, and analog audio inputs, as well as automatic detection of word length and sampling frequency. Up to eight 8130A loudspeakers can be daisy-chained in digital or analog mode, and these units are compatible with the Genelec 7050A subwoofer.

The company also debuted the 8000 MDE Series (Minimum Diffraction Enclosure) of active bi-amped loudspeakers that include three models—8030A, 8040A, and 8050A—employing integrated Advanced Directivity Controlled Waveguide technology.

JBL Professional debuted the LSR6325P compact bi-amped monitor loudspeaker that incorporates the company's Linear Spatial Reference technology for smooth mid- and high-frequency response, and also a boundary compensation setting used for wall and corner mounting. The LSR6325P can be used by itself or in conjunction with the LSR6312SP subwoofer and its integrated JBL RMC room-mode correction system.

Sennheiser Electronic showcased its new line of miniature headsets, the HSP2 (omni) and the HSP4 (cardioid), both with integrated windscreens.

The company also unveiled its latest "entry-high-end" headphone designs, the HD201 and HD215. Both are closed, dynamic over-the-ear headphones with a closed-back design and a rotatable earcup.

SLS Loudspeakers introduced the PS8R powered close-in monitor system and highlighted its other products as well. The ribbon-equipped bi-amped PS8R incorporates the new Evenstar Sigma-Delta digital amplifier technology.

Other loudspeakers at the SLS booth included the S1065 midfield studio monitor, HT400 5.1 surround speaker system, and S1266 large format midfield studio monitor. The SLS 1266 uses the company's proprietary PRD1000 push-pull neodymium ribbon driver.

Tascam debuted the VL-X5 home studio monitor system. These powered and shielded speakers feature 5 1/4-inch woofers, silk-dome tweeters and a 60+30-watt bi-amplified active power amp, low- and high-frequency controls and an Acoustic Space Control to optimize their performance for room placement or listener preference.

Television Systems Limited (TSL) rolled out the Cameo, compact, self-powered close-field audio monitor, the newest addition to its line of audio monitoring products.

MONITORING

Henry Engineering demonstrated the MultiPhones distributed headphones system that consists of a master unit and up to 12 guest pods interconnected with CAT5 cabling. The company also introduced the AutoSwitch automatic audio switcher and silence sensor for headphone listening.

Radio Design Labs' (RDL) FP-PA20 20 W RMS audio power amplifier was one of many modular products the company exhibited. The output will drive an 8-Ohm speaker or multiple speakers connected to present an 8-Ohm load to the amplifier. The FP-PA20 is part of the group of Flat-Pak products from RDL.

Yamaha showed three new models of power amps, the XM4080, XM4180 and the high-impedance XH200. All feature reduced size and weight, an added external PC-function monitor and enhanced output flexibility. ■

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Bolex 16mm reflex cameras, Arriflex-SB, Arri-BL & Arri-SR cameras w/lenses; Auricon Bach 16mm cameras w/tripods; JK-Eng optical printers w/Super 8mm/16mm film gates; Photosonics Action-Master 500 w/magazine & PL-mount lenses; Xenon Arc 16mm projectors, Xenon Eiki-3500S, Eiki-EX4000P, Eiki-EX5500S & Elmo CX-350 projectors, Super 8mm projectors; Elmo GS1200 stereo std/Xenon; Beaulieu 708EL stereo std/Xenon; Fujica-Scope MX-70 dual 8mm projectors Super 8mm cameras; Nizo-6080; Canon 1014-XL-S Nizo 6080 & Bauer 715XL; Nagra R-R rcdrs; wanted 8mm films of old home movies on various subjects in Kodachrome & B&W & H-Square Esprit Engraving machine w/computer screen & keyboard by Hazeltine; I will accept malfunctioning equip for parts. Henry, 305-652-5065 or hdeans@msn.com.

SIGNAL PROCESSING

Want to Sell

(2) Faroujda Pictureplus NR Series HD up/down convertor, 4:3, 16:9, anamorphic, 1080i, 480, 720, analogue, digital proc amp, composite, component, S-Video, HDTV DB 15, computer monitor, etc, $2400/ea; Scan Do converter, $299. M Blanchard, 910-392-4211.

Dynair 1510B 1 in 4 out video DA, mint, $50; Dynair Mini-MOP video EQ, can equalize up 4000 feet of coax, $40. A Ross, 425-775-8853.

Leitch Mix-7001 multi-function digital frame, $500; Grass Valley Series 8900 Frames w/redundant power supply, $600; GVG 8501 video DA's, $150; GVG 8551 audio DA's, $150; GVG 8936 cards, $250; Sony BVX-D10/BVR-11, $4250. 818-788-4700 or www.tvprogear.com.

Want to Buy

Medea 100 Gig IDE Raid array. G Parr, 805-681-0415 x.22 or gparr@glendon.org.

SWITCHERS

Want to Sell

Echolab Prima MSV6 10-input switcher, $12500; Grass Valley 200-2, fully loaded, $6000; Miranda Digipath 16x16 SDI router w/remote panel, $4500; Leitch 4x4 MB routers, $175; GVG Ten X, $800; Kramer 5x4 A/V switchers, new, $475. 818-788-4700 or www.tvprogear.com.

Sigma VSS 12 1x12 stereo video switcher, new in box, $200. M Blanchard, 910-392-4211.

TAX DEDUCTIBLE EQUIPMENT

Looking to unload old but stable television equip? Donate it to VTTV Student Television, all donations are tax deductible & will help a student run television station continue its operations, if interested, please contact vttv_donations@vt.edu or visit us on the web at www.vttv.vt.edu.

Non-profit Emergency Medicine Research Foundation (EMARF) seeks S-VHS cameras & edit equip in gd cond for medical research projects & education. S Serbin, 973-251-1075 or serbins@alpha-apr.com.

TEST EQUIPMENT

Want to Sell

Leader LV-5100D SDI waveform/vector, $4250; Videotek TVM-821D SDI waveform/vector, $4250; Tektronix WFM601M SDI waveform, $5000; Tektronix 1735 PAL waveform monitor, $1000; Tektronix 764 digital audio monitor, $2250; Tektronix 760A audio monitor, $1250. 818-788-4700 or www.tvprogear.com.

Lenco PVS430 videoscope displays SC/H relationship for system timing w/manual, $100; Tektronix rackframe for two waveform monitors, $40. A Ross, 425-775-8853.

Tektronix 149A NTSC test signal gen, $250. A Martin, 218-765-4321.

Tektronix D-2 analogue/digital waveform 1730 D-2, $699. M Blanchard, 910-392-4211.

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VTRs/VCRs /RECORDING MEDIA

Want to Sell

(25) used U-Matic tape machines, front & top loaders, Sony, JVC, etc, BO/trade. Ted, 859-743-6006.

JVC CR-850U 3/4 deck, 10 hrs since refurbished, $800. M Blanchard, 910-392-4211.

Sony 1" VTR BVH-2000 w/TBC, new 96 min tape V1-K & empty reel, manuals, calibrated and working fine, $400. Ted, 847-441-5999.

Sony UVW 1800 lw hrs $5500 Sony PVW-2800, $6000; Sony BVW-70 from $6500; Sony BVW-65, $2000; Sony DSR-1500A, new, $4950; Sony DSR-45, new, $3995; Panasonic AJ-D950 DVCPRO 50 rcdr, lw hrs, $7950; Sony VO 9850 w/timecode, $1200; Sony VO 9800 w/timecode, $1000; Accom WSD Xtreme, $3500. 818-788-4700 or www.tvprogear.com.

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World Radio History

Business News

Sinclair Gets a Big Q1 Boost

BALTIMORE

Sinclair Broadcast Group beat the street in its first fiscal quarter of 2005, reporting profits of $11.3 million, compared to $289,000 for the same period in 2004. Revenue for the quarter was up to $164.7 million, from approximately $164 million in Q1, 2004.

Operating income jumped from $25.3 million for the period a year ago to $32.5 million for this year, a 28.7 percent increase. Sinclair reported net income to shareholders of $8.8 million, compared to a net loss of $2.3 million in Q1 2004.

The company attributed the boost to Super Bowl revenues for its Fox affiliates, which garnered $4 million in the quarter, compared to $0.1 million in Q1 2004. Local ad revenues also increased 0.3 percent, while national ad revenues decreased 3.5 percent, due to the absence of political ads in 2005.

Sinclair owns 61 television stations in 38 markets. ■

Avid Up, Pinnacle Down

TEWKSBURY, MASS. & MOUNTAIN VIEW, CALIF.

Avid Technology announced its best ever first quarter, logging revenues of $166 million for Q1, FY2005.

The revenue jump represents a 30 percent increase over the $127.4 million reported in the same quarter in 2004. Operating income for the first quarter of 2005 was $20.3 million, compared to $14.8 million for the same quarter in 2004.

Meanwhile, Pinnacle Systems, which is being acquired by Avid, reported a 20 percent decline in revenues in the third fiscal quarter of 2005.

The company reported $65.2 million in net sales for Q3, ending March 31, 2005, compared to $82.1 million for the same period last year, approximately $11 million less than Pinnacle had forecast for the quarter. This estimate included expected sales of approximately $4 million for Team Sports, the assets of which were sold to XOS Technologies, announced Feb. 7, 2005. The company also sold off its Steinberg Audio division in 2004.

Net loss for the quarter was $615,000, up from $292,000 during the Q3 '04. Leaving out the income from the sales of the two divisions, the company's net loss for the quarter was $3.7 million, or a loss of $0.05 per share.

As of March 31, Pinnacle's balance sheet included cash, cash equivalents and marketable securities totally $133.4 million. The Avid transaction—currently priced at $462 million—is expected to be completed by this summer. ■

Telex Appoints VP of Intercom Systems

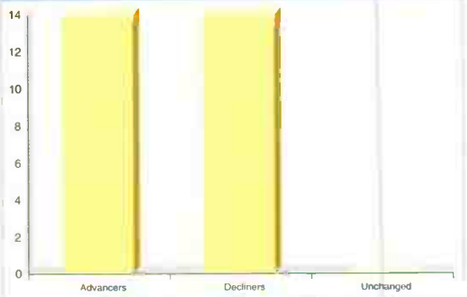
BURNSVILLE, MINN.

Professional sound and communications equipment designer and marketer Telex Communications has recently promoted Talal Aly-Youssef to vice president of intercom systems engineering.

"Talal has been a key member of the Telex Intercom team, and this promotion recognizes the strategic value that he provides in achieving our successes. In this new position, Talal will assume a more active role in our strategic planning as we grow into new markets with new products and services," said Ralph Strader, president, intercom systems, Telex Communications. ■

Lauren Evoy Davis

WIN-LOSE RATIO



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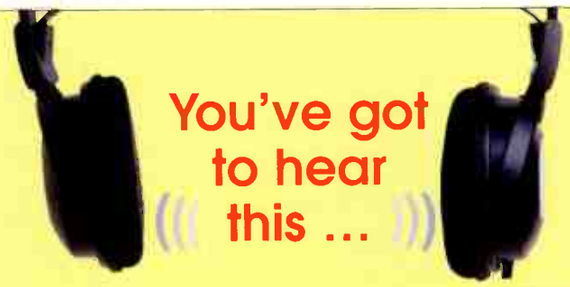
TV Tech STOCKS as of May 6

Company Name	52-Week Range	Apr. 22	May 6	% Change
Avid	40.90 - 68.35	50.92	53.96	5.97%
Belden	15.56 - 24.59	20.76	18.58	-10.50%
Ciprico	3.15 - 4.90	4.55	4.69	3.08%
Harmonic	4.86 - 12.40	6.27	5.79	-7.66%
Harris	21.19 - 35	29.82	29.2	-2.08%
Leitch	6.53 - 11.2	8.8	9.4	6.82%
LSI Logic	4.01 - 8.23	5.31	5.67	6.78%
Pinnacle	3.25 - 8.18	4.93	5.51	11.76%
Sci. Atlanta	24.61 - 36.06	30.44	31.23	2.60%
SeaChange	10.04 - 19.75	10.6	8.97	-15.38%
Tektronix	21.72 - 35.00	22.41	22.51	0.45%

Broadcast STOCKS as of May 6

Company Name	52-Week Range	Apr. 22	May 6	% Change
Acme	3.51 - 8.06	4.2	4	-4.76%
Belo	18.00 - 29.62	22.53	23.74	5.37%
Emmis	15.29 - 24.19	16.45	15.42	-6.26%
Entravision	6.85 - 9.11	7.95	7.55	-5.03%
Fisher	45.02 - 52.60	48.58	47.98	-1.24%
Gray	11.20 - 15.74	13.1	12.96	-1.07%
Hearst Argyle	22.57 - 26.75	24.73	24.92	0.77%
Nexstar	5.40 - 12.55	5.87	5.68	-3.24%
Lin TV	15.28 - 22.99	16.02	15.94	-0.50%
Paxson	0.48 - 3.81	1.02	0.86	-15.69%
Sinclair	6.12 - 13	7.52	7.97	5.98%
Liberty	34.32 - 48	37.64	36.53	-2.95%
Univision	25.80 - 35.22	25.95	27.18	4.74%
Young	6.87 - 16.89	7.57	6.17	-18.49%
Tribune	37.04 - 48.97	37.26	38.4	3.06%
Meredith	44.51 - 55.94	44.98	47.02	4.54%
EW Scripps	44.73 - 54.52	50.47	51.26	1.57%



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