

BROADCASTING CABLE

APRIL 10, 2002

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NAB MIDWEEK

PLEASE COME BACK

NAB's Fritts asks NBC, CBS and Fox to rejoin the trade group

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LESSONS OF SEPT. 11

TV, radio journalists assess what was learned from covering a national tragedy

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SONY'S BIG NBC DEAL

The electronics giant lands an exclusive supply contract with NBC

» PAGE 28

MEET THE 2002 TECH LEADERS

B&C salutes four industry movers and shakers

» PAGE 13



"It is true that we disagree with our network friends over the 35% TV ownership cap, but I would suggest that on virtually all other major issues, the NAB and the networks agree."

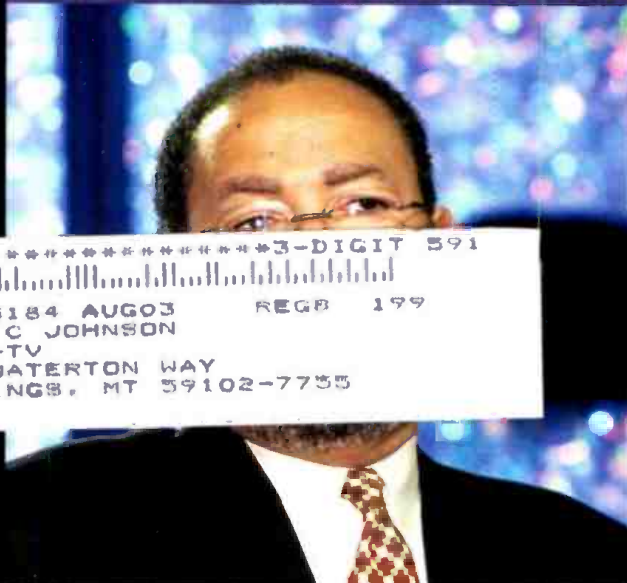
—NAB President Eddie Fritts



"All of them have something to gain. Sometimes all you need is leadership. It's like any negotiation."

—FCC Chairman Powell on his new DTV plan.

Coming Together



Unity is the unofficial theme of NAB 2002

"We will have to work together... The old notion of two sides permanently feuding in the style of the Hatfields versus the McCoys is as outdated as it is self-defeating."

—AOL Time Warner CEO-designate Richard Parsons

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Powell plan gains support

Broadcasters, TV set manufacturers get behind DTV transition scheme

By Bill McConnell

After unveiling an ambitious plan to speed the digital TV transition, FCC Chairman Michael Powell is winning support from at least two of the three principals in the DTV transition.

Although skeptics questioned whether Powell could get broadcasters, multichannel providers and TV set makers on board with his voluntary plan, he has already won early support from broadcasters and manufacturers without twisting arms. The chairman himself, however, admits no surprise.

"All of them have something to gain," Powell told reporters after an NAB 2002 breakfast Tuesday. "Sometimes all you need is leadership. It's like any negotiation."

Self-interest as a spur to unity was a theme of this week's show, with NAB President Eddie Fritts urging networks to rejoin the fold (see page 8) and AOL Time Warner CEO-designate Richard Parsons saying the feud between broadcasting and cable was self-defeating (see page 9).

Powell's plan may be voluntary, but he made it clear that speeding the transition is crucial.

"This transition is not just important to broadcasting. It's important to America and it's been languishing for far too long,"



Though FCC Chairman Michael Powell's plan to speed the digital transition is voluntary, he will call on leaders from various industries to solicit their commitments.

he said during an earlier Q&A session with ABC anchor Sam Donaldson.

Last week, Powell proposed a four-point plan setting specific levels of digital service for broadcasters, cable, DBS and TV set manufacturers. Compliance is voluntary, but Powell will call in leaders from each sector in the coming weeks to solicit firm commitments.

"Every one of those segments has to step up to the plate and do things they don't like and do some things they will like. I personally think we're close."

Although industry officials have speculated that Powell will hold out the threat of tougher laws or regulations to get every-

body on board, he insists there will be no swinging of bureaucratic clubs.

"This is completely voluntary," he said.

Powell said industries' long-standing reluctance to take on new obligations is quickly eroding. It's "simply not true" that the parties are unwilling to go along, he said.

Still the threat of government-enforced mandates remains, even if they won't be directed at uncooperative parties. "There's always the threat of tougher rules," Powell conceded. "We're regulators."

Of course, Congress also has its own power to threaten any side that plants its heels. "If cable blows this off we're likely to see legislation on must-carry" of broadcast signals, said Covington & Burling attorney Ellen Goodman.

Cable operators worry that the plan obligates them to devote spectrum to local broadcasters who will use digital multicast capabilities for little more than repeats of prime time dramas and sitcoms.

Cable has been more hesitant to jump on the bandwagon than the other sides. National Cable & Telecommunications Association President Robert Sachs called Powell's ideas "thought provoking" but cautioned they "warrant further consideration."

If reaction from the broadcasters and the consumer equipment industry is any indication, however, the industries may be ready to set their disputes aside.

"My immediate reaction was, 'Hallelujah!'"

Powell plan refresher

■ Big Four nets, HBO and Showtime provide HDTV, "value-added" DTV, multicasting or interactive programming during 50% of prime time beginning 2002-2003 season.

■ Big Four's local affils in top 100 markets pass through networks' digital signal, including HDTV and with no signal degradation, by Jan. 1, 2003

■ Cable operators with digital tiers carry up to five channels with digital programming during 50% of prime time beginning Jan. 1.

■ TV manufacturers equip half of sets 36 inches and larger with DTV tuners by Jan. 1, 2004; 100% by Jan. 1 2005; all sets 13 inches and larger by Dec. 31, 2006.

"said NAB attorney Valerie Schulte. "Maybe we have a chance to get this thing going."

After initially expressing reluctance to abandon its opposition to phased-in digital tuner requirements for new TV sets, the Consumer Electronics Association Tuesday pledged to discuss the plan "with our manufacturers as soon as possible and examine how we can support our mutual goal of expediting the transition to digital television." Equipment manufacturers, according to industry sources, pressed CEA President Gary Shapiro not to make the tuner mandate an obstacle to moving forward.

Rick Chessen, head of the FCC DTV task force, provided some much-needed clarification of cable operators' call to carry "up to five" digital channels. Specifically that means all of the available digital channels in their market, but no obligation to carry no more than five. Chessen reiterated that local broadcast stations do not necessarily need carriage if operators have access to digital programming from five cable nets.

Powell made it clear this plan won't resolve other DTV policy disputes, such as broadcasters' demand for cable carriage of both analog and digital signals during the switch to DTV, how to define what is contained in broadcasters' "primary" signal, and creating copy-protection standards.

The lack of a broadcast carriage mandate alarmed George DeVault, president of Holston Valley Broadcasting, which owns TV and radio stations in East Tennessee. "Even in small markets there will be more than five digital channels," he said, noting Holston Valley will spend \$275,000 to bring a station online with high-definition signals, as Powell's plan requires. "It would be helpful to have an understanding that cable will carry it."

Another problem for small-market broadcasters: Only cable systems retrofitted for digital tiers would be obligated to carry any digital programming. "Most smaller systems haven't been upgraded," complained Tom Van Wazer, who represents broadcasters for Sidley Austin Brown & Wood. Because the economics are tougher on smaller markets, Van Wazer called on the FCC to create a blanket waiver for small stations. ■

BROADCASTING CABLE

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COMING TOGETHER

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NAB SPECIAL

TECH LEADERS

The magazine profiles and salutes four technological leaders who are changing the industry. >> 13

NAB PHOTOGRAPHY

Rick Rowell / Craig Mathew Photography

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T H E W E E K T H A T W A S

RUKEYSER TO CNBC

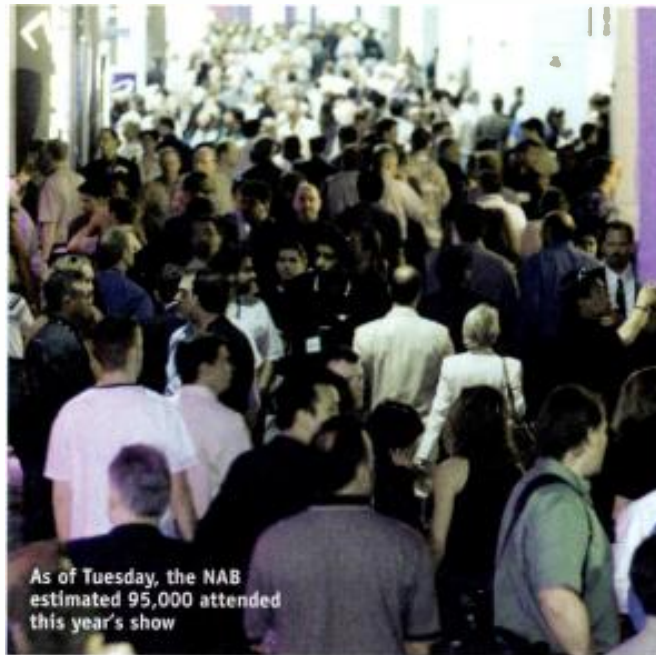
Spurned PBS veteran Louis Rukeyser is joining CNBC to host a new weekly show, *Louis Rukeyser's Wall Street*. He'll even be returning to some PBS stations.

Rukeyser, 69, ended his 32-year run on public TV in March after Maryland Public Television, which produced *Wall Street with Louis Rukeyser*, dropped him from the show. Rukeyser will make his CNBC debut April 19 at 8:30 p.m. ET, the same timeslot he had on PBS and, in some markets, still will. CNBC will make the show available to PBS outlets one or two days after its initial play. Long Island, N.Y.'s PBS outlet WLIW-TV will distribute the show.

CNBC is seeking underwriters, planning only to air commercials at the top and bottom of the half hour. MPY, claiming that Rukeyser was sacked based on viewer input, is replacing him with *Wall Street Week with Fortune*, hosted by *Fortune* editorial director Geoffrey Colvin, 48, and a woman yet to be chosen.

DOWN, BUT NOT DONE

Hey, they're not done counting yet, but preliminarily, NAB officials have counted attendance as "95,000 and counting," said spokesman Dennis Wharton on Tuesday. "It is, by any stretch of the imagination, a fantastic show for the NAB," which last year attracted 113,000. Given the fallout from 9/11, the NAB was bracing itself for a large



As of Tuesday, the NAB estimated 95,000 attended this year's show

attendance decline, but organizers saw pre-registration start to climb about six weeks ago.

RTNDA BY HALF

The quickly-organized Radio-Television News Directors Association convention, held in association with NAB in Las Vegas, drew about 1,100 registrants, around half what it would likely have drawn at the Nashville conference cancelled due to Sept. 11, but still above its goal.

RTNDA President Barbara Cochran said that about 800 of the registrants were paid, and more than 600 were news executives.

PTC ATTACKS SHIELD

It didn't take long for watchdog group Parents Television Council to target FX's gritty new hit original series, *The Shield*. "PTC has launched a targeted campaign

to expose the companies that continue to support the unprecedented filth FX has chosen to display on *The Shield*," says PTC Founder L. Brent Bozell. According to PTC, advertisers Burger King, Office Depot and New Balance have stopped running ads on the program.

WALLACE TO CUT BACK

Right. After 34 years as a full-time correspondent with the program, Mike Wallace, 84, says he will cut back on his workload at CBS's *60 Minutes*. He told *The New York Times* he would reduce his workload by 50% starting next season. Of course, Wallace said the same thing about the current season and he's already done 15 segments, more than any other staff correspondent. This time, Wallace insists he means it, saying the ravel has become too fatiguing. Others at the CBS News division are

skeptical. In fact for the last two seasons, Wallace has been contractually obligated to do only half the normal full-time load of a *60 Minutes* correspondent, but has worked full time anyway. If he does cut back, it's expected Bob Simon and Christiane Amanpour would increase their contributions.

FACTIONS FIGHT OVER SET-TOP STANDARD

Two factions of the digital television industry are fighting over whether the open set-top-box standard developed by Cable Labs violates consumers' rights to copy content.

Last week, the Home Recording Rights Coalition said that the most recent version of the Point-of-Deployment Host Interface License Agreement, known as PHILA, secretly maintains "anti-consumer constraints on any product that would be sold in competition with those of its cable industry owners," said HRRC's Michael Petricone. "After a year of secret negotiations, all of the anti-consumer provisions remain. The sorry state of the PHILA license shows that the FCC now needs to reclaim the mission that the Congress gave it." On Monday, Cable Labs President Richard Green sent a lengthy, detailed letter to Senate Judiciary Committee Chairman Patrick Leahy (D-Vt.), calling HRRC's claims "highly inflammatory and inaccurate." Instead, Green says, "PHILA provides tools, not rules."

FORGET THE JONESES

CONVINCING

WE'VE GOT WORLDWIDE TELEVISION STANDARDS TO KEEP UP WITH

For years there have been two primary analog TV standards worldwide. Now, with DTV, there are over 18 digital delivery standards. Only film is compatible with every single one of them. And if history is a teacher, you can bet that these too will be superseded by tomorrow's new standards. The one sure way to protect your investment is to originate on film. No other medium has kept pace with broadcast changes quite like it. So your program can live happily ever after in syndication, well into the future. Which should please everyone—including the Joneses.

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BROADCASTING•CABLE

CONGRATULATES

the winners of the 2002 Technology Leadership Awards

DAVE MAZZA

Vice President,
Engineering, NBC Olympics

BOB ZITTER

Senior Vice President,
Technology Operations, HBO

KELLY ALFORD

Vice President, Engineering,
Ackerley Group

TIM THORSTEINSON

President and CEO,
Grass Valley Group

They make TV work

B&C lauds four tech experts with magazine's 2002 Leadership Awards

LEADERSHIP IS NOT A SPECTATOR sport, as James M. Kouzes and Barry Z. Posner, the authors of best-selling management books, like to say in their lectures. You have to be involved.

This is certainly true of BROADCASTING & CABLE's 2002 Technology Leadership Award winners. Each of the four has improved television through his innovative use of technology.

The foursome joining the list of technology's brightest lights honored by the magazine:

■ **Kelly Alford**, vice president of engineering for the Ackerley Media Group and a prime mover in broadcasting's centralcasting evolution.

■ **David Mazza**, vice president of engineering for NBC's Olympics cov-

erage, whose job it is to complicate the technological feat of presenting so much programming from so many sites, with no time to spare.

■ **Tim Thorsteinson**, who as CEO for Grass Valley Group must now concentrate on building the company, recently acquired by Thomson Multimedia, by shrewd research and development.

■ **Bob Zitter**, senior vice president, technology operations, for HBO, who has helped make sure the pay giant leads in every technological advance from surround sound several years ago to HDTV today.

In the pages that follow, Ken Kerschbaumer, B&C assistant managing editor and technology expert, profiles our 2002 winners.

Past honorees

Jim Chiddix
Time Warner

Joe Flaherty
CBS

Fox Sports

Rob Glaser
RealNetworks

Ira Goldstone
**Tribune Broadcast Television
Station Group**

James Goodman
Capitol Broadcasting

Dick Green
Cable Labs

Eddy Hartenstein
DirectTV

Woo Paik
LG Electronics

Mark Sanders
Pinnacle Systems

Charles Steinberg
Sony

Richard Wiley
Wiley, Rein & Fielding

BROADCASTING & CABLE 5TH ANNUAL TECHNOLOGY LEADERSHIP AWARDS

Congratulations
to
Dave Mazza
and the other
2002 Award Winners

Canon KNOW HOW™
Broadcast and Communications Division

Kelly Alford

He was the force behind the first centralcasting operation in the country



Born in 1958, Alford has been in the broadcast industry for 26 years, 13 of them with the Ackerley Group.

He studied electrical engineering and business administration at the University of Washington. He is married and has three children

Besides blazing trails in centralcasting, he was also the architect of Digital Media Management System for nationwide networks of video display/advertising systems.

LIKE MANY A CHILD, KELLY ALFORD spent time tagging along as Dad went about his work. His father worked in communications for the military, exposing Kelly to the transmitter towers and equipment found at transmitter sites.

That must have left quite an impression on the boy: Today vice president of engineering for the Ackerley Media Group, he has become one of the leading station-group technicians in the country.

He started as "talent." "I was the proverbial high-school disk jockey," he says, "and I worked my way through college at the University of Washington by being on the air." On graduation, he was recruited for aerospace jobs in the area but decided to stay in broadcasting.

"I wasn't a very good disk jockey, and I was really leaning towards the technology side of things anyway," he recalls. "What was really interesting was developing equipment to enhance the business model that the radio or TV station could use. I wasn't just into buying equipment because it's cool. I try to look at it as how can we use this equipment as a tool to improve our business rather than just because it's cool."

Spurning the aerospace industry, Alford landed a job with Seattle's King Broadcasting and worked on both the television and radio sides of the company. In 1988, he joined Ackerley as chief engineer of the radio group. And, as the Ackerley Group began to branch into television, so did Alford, who took on the post of director of engineering.

It was in 1996 that Alford first became involved with the project that led to his selection as a Technology Leadership Award honoree: centralcasting. (Alford's Ackerley Group has even copyrighted the term.)

Centralcasting wasn't a foreign concept to him. After all, being an old radio guy meant that he had had exposure to how radio was using technology to develop centralized operations that improved the radio industry. So the TV side of Ackerley, faced with digital transmission and the replacement of aging infrastructures at the stations it owned or wanted to acquire, looked to the economies of centralization.

"At the time, my boss was very interested in getting involved with centralcasting earlier than I thought the technology would allow," he says. "So I was constantly holding him back from doing it until there were solutions that would allow us to move forward."

Ackerley's first hub is based at WIXT(TV) Syracuse, N.Y. It handles traffic, programming, accounting and other technical operations for five additional stations in Binghamton, Elmira, Rochester, Utica and Watertown, N.Y. Two additional hubs are located at KGET(TV) Bakersfield, Calif., and at NCBA(TV) Salinas, Calif. All but two of Ackerley's stations, KVOS-TV Bellingham, Wash., and KTVF(TV) Fairbanks, Alaska, are involved with a centralcasting facility.

"Our stations are clustered in a way that they are relatively close together," says Alford. "The furthest fiber run we have right now is about 460 miles."

Clustering stations by geography is important for centralized operations. But Alford says the advantage of proximity extends beyond making sure the fiber runs between stations don't cover thousands of miles: It also affects the on-air product. "There are several hidden advantages that are hard to put down on a spreadsheet. Centralcasting plays a huge role in the ability to share material within a region, especially news material."

Regional magazine-style programs also can be given greater reach. "Plus we own all the inventory," he points out. "We've just started to scratch the surface of that element of the connectivity that centralcasting allows."

Centralcasting has definitely received increasing attention from equipment manufacturers, station engineering departments and the technical trade press. But despite Ackerley's trailblazing, it is still a concept in its infancy—at least for TV-station groups. Therefore, getting educated and finding the right fit is Alford's advice for a first step.

"If you have a station in a market that is making money, do you really want to upset the apple cart by making some radical changes?" he asks. "Or do you want to do portions of a centralcasting model to gain some additional efficiencies? You have to spend the time to look at the move and make sure everyone is comfortable with it before going forward."

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'There are several hidden advantages that are hard to put on a spreadsheet. Centralcasting plays a huge role in the ability to share material within a region, especially news material. Plus, we own all the inventory.'

BY KEN KERSCHBAUMER



CONGRATULATIONS
TO OUR TEAMMATE

KELLY ALFORD

VICE PRESIDENT OF ENGINEERING

RECIPIENT OF THE
2002 TECHNOLOGY LEADERSHIP AWARD



THE ACKERLEY GROUP
OUTSTANDING MEDIA & ENTERTAINMENT COMPANIES

Tim Thorsteinson

He has helped power Grass Valley Group into a leadership position



Thorsteinson was born on Dec. 6, 1953, in Sacramento, Calif., and attended the University of Pacific in Stockton, Calif. He graduated in 1976 with a BA in psychology.

While at college, he was QB and wide receiver on the football team.

Married to his wife, Kimberly, since 1998, he has a son and another child due this week.

At National Semiconductor, he helped improve corporate quality enough to earn Singapore's Gold Medal (the equivalent of the U.S. Malcolm Baldrige award for quality).

SO HOW DOES A PSYCHOLOGY MAJOR become a technology leader? Tim Thorsteinson, CEO of the Grass Valley Group business unit of Thomson Broadcast Solutions, credits both family and co-workers.

"It's through osmosis and being around smart people," he says. "I've learned a lot about technology, and it's a little like art. I have a house full of beautiful art, but I can't paint; I know good technologists and technology when I see them. And that's been to my advantage."

Even on the home front, Thorsteinson's technical skills are in the passenger seat.

"My wife is an electrical engineer, so she's the technical one in the family," he explains. "But I've always worked in highly technical environments since my first job, which was running a simulated lab for National Semiconductor. So I've been right in the middle of technology-based businesses for 22 years."

Today, Thorsteinson is right in the middle of something else: one of the larger industry acquisitions. His company, Grass Valley Group, was recently acquired by French equipment firm, Thomson Multimedia for \$172 million; together, the two companies expect to do \$500 million in business every year. He will play a major part in Thomson Multimedia's future here in the U.S. Thomson looks to take advantage of GVG's solid reputation here in the States.

"Our goal is to take the things we've been successful at and carry them forward," Thorsteinson says. "And the upside of this whole acquisition is that we're now part of a company that is focused on the total media space and we're part of a large company that has a capital base. The challenge of what we've been doing the last couple of years is that we've been very thinly capitalized. So keeping the engineering spending where we kept it—15-20% per year—when we're in an industry recession and we're capitalized by basically one person was difficult."

Thorsteinson's career trajectory pretty much took off after college graduation. His first job was working at National Semiconductor, where he used his psychology background to bring in new hires and form teams to create semiconductor fabricators. He then moved into the position of

director of productivity and quality improvement.

"I spent most of my time at National Semiconductor running staff organizations that were all aimed at improving the performance of the operation with either quality or productivity improvements," he says. "It started out in manufacturing, but, near the backend of that, it was re-engineering the businesses, and a lot of work was done with the design and development areas."

It was during that five-year period from 1980 to 1985 that he learned to place an emphasis on product development. After squeezing efficiencies out of the manufacturing side, he moved to the next goal, making the product-development process a lot more efficient and productive.

"If you don't move your development process very quickly, you can't take advantage of the most current component technology, and, as a result, your price points and feature sets will be non-competitive," he says. "That's seminal to my whole view of the business."

Since joining Grass Valley Group as president in 1997, Thorsteinson helped the brand regain much of its former glory. In the '80s, Grass Valley Group had been synonymous with production switchers, its 300 line a de facto standard among many broadcast professionals.

In 1992, Thorsteinson, who was vice president, human resources and total quality, for Tektronix, which had owned by Grass Valley Group since 1975, made his first trip to see the company's operations in Nevada City, Calif.

"Back then, Grass Valley Group was spending quite a bit on research and development, but it really wasn't delivering anything to the marketplace," he says. "When I got the business in '97, only 10% of the revenue was coming from products that had been introduced in the previous two years."

He quickly saw the challenge facing Grass Valley Group: how to again become a product company whose brand equity was technology leadership and what he calls customer intimacy.

"If you went to our NAB booth in 1997, you saw basically one new product; everything else was six or seven years old," he says. "You did not see technology leadership. What you saw was a company that looked like it was on its last legs."

That emphasis on new products also left many
(continued on page 22)

'If you're not a leader, and that means No. 1 or 2, you don't have the scale to afford the investment to stay as a leader.'

BY KEN KERSCHBAUMER

YOUR JOB SHOULD BE EASIER. NOW IT IS.

At Thomson Broadcast Solutions and the Grass Valley Group, we believe in delivering open, integrated digital products. Products that let you hit deadlines, keep ratings up, deliver the highest quality programming, and drive more workflow and capital efficiencies.

We also believe in the kind of technology leadership and innovation that makes everybody's job easier. We're happy to congratulate the industry leaders chosen for the 2002 Broadcasting & Cable Technology Leadership Award.

Dave Mazza

NBC Olympics

Bob Zitter

HBO

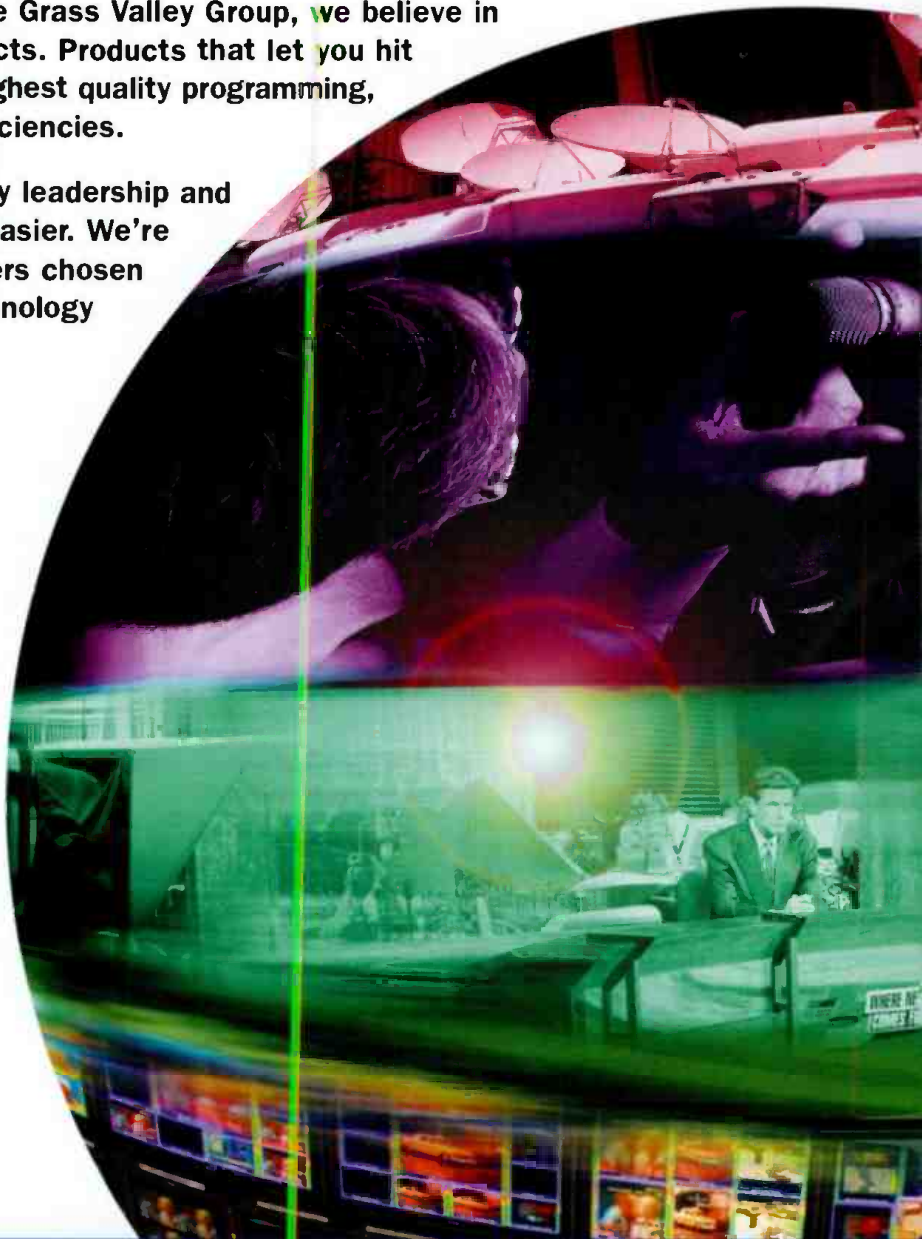
Kelly Alford

Ackerley Media Group

– and our own –

Tim Thorsteinson

Thomson Broadcast Solutions



Bob Zitter

He makes sure that HBO technical decisions keep viewers happy



Zitter was born in Los Angeles Jan. 18, 1947, and attended Colgate University in Hamilton, N.Y., graduating with a biology degree in 1968. He also received an MBA from Frostburg State College in Frostburg, Md., in 1974.

He served on NCTA's government affairs committee and as president of the Maryland-Delaware Cable Association while managing Antietam Cable in Hagerstown, Md.

He has been married to Hillary Esbit since 1972 and has two children, Sarah and Adam.

TECHNOLOGY LEADERSHIP CAN BE DEFINED many ways. In some instances, it's about being ahead of the curve. In others, it's often about taking a curve and using it a different way. That doesn't mean zigging instead of zagging but rather using the zag to get somewhere else.

For Bob Zitter, HBO senior vice president, technology operations, it's the latter approach that helped him earn a BROADCASTING & CABLE Technology Leadership Award.

HBO began testing high-definition in the mid '80s, when all that was available was Japan's Muse HD system. But, a couple of years later, digital compression began to surface as a topic of discussion, and HBO asked General Instruments a question that changed the entire industry: Is it possible to use the same technology for squeezing a high-definition signal into 6 MHz to squeeze down a standard-definition signal, too? If so, that would allow for more SD signals to be added to the 6 MHz of bandwidth.

The answer, of course, was yes. And the result was HBO's first multiplex feed to cable operators, launched in January 1992.

That development also goes to the core of how Zitter views his job. "I think I've had the best job in the world because HBO has been a force of change in the television industry," he says. "And what I've liked is that the impact of technology on consumers and our business was always something that I've been encouraged to not be shy about."

Zitter has been involved in numerous wings of the broadcast industry at a professional level. In 1969, he worked for Army Television in Augusta, Ga., as a producer and director while serving at Fort Gordon. At the same time, he worked at WATU-TV Augusta as the director of the local news and the *Bozo the Clown* show. He also was a weekend DJ at WBIA(AM) Augusta.

"If there is one thing that characterizes my drive, it's that I didn't want to get pigeonholed in one area of media over another," he says. "I didn't want to be in the radio business at the exclusion of television, or broadcast at the exclusion of cable. And I think that's one thing that has kept my career enjoyable for me."

In 1981, he went to New York and became

HBO's director of network operations. He soon faced his first major technical challenge: negotiating deals with suppliers and coordinating the rollout of satellite scrambling technology with the cable industry. Like the technical developments that followed, which include multiplexing, HDTV and on-demand, scrambling required not only knowing the technology for his own staff but helping the nation's cable operators understand the implications as well.

"Any new technology is mostly working out bugs and logistics," he says, "and being able to take something from the prototypes up to a large-scale deployment."

But Zitter's job isn't pure technology: "It's to see how things like DTV, personal video recorders [PVRs] or HDTV impact our business—and then which ones we should take an early position on or which ones to fight."

An example of a technology development that HBO did not lead on was surround sound. "We've always believed that people are paying a premium for HBO and that we're going to do things when we can do them well," says Zitter. "We weren't the first in 5.1 audio because we had concerns about some of the quality issues we had to work through to do it right."

The flip side of that is HBO's foray into HDTV, which reached subscribers in the summer of 1998, putting the cable net far ahead of the pack. Today, HBO's HDTV signal is carried on more than 61 systems across the country, a far cry from the launch nearly four years ago.

The move to HDTV shows how HBO understands its viewers: Most large-screen owners get HBO, and the network was quick to realize that those consumers would likely be the ones most interested in HDTV, too.

"They were also early adapters and likely to be our best subscribers," adds Zitter. "So we said that, if we didn't do HDTV, it could be harmful. We had to be there at the beginning."

It was not an easy task. Movie studios at that time, with the exception of HBO parent Warner Bros. and Sony Pictures, were not making HD masters.

"We had to build our own HD film-to-tape transfer operation," Zitter explains. "We told the studio we'd prefer them to make the copy for us

(continued on page 22)

'Any new technology is mostly working out bugs and logistics and being able to take something from the prototypes up to a large-scale deployment.'

BY KEN KERSCHBAUMER

TVCLM Spain



In the ancient land of Don Quixote lies the region of Castilla-La Mancha in central Spain. This fabled area recently welcomed its newest resident — TVCLM — Castilla-La Mancha's public television station, which went on the air in December 2001. Owned by the regional government and under the supervision of the local parliament, TVCLM is based in the city of Toledo, southwest of Madrid. Its mission is to provide a region-wide service focused on community news.

by Luis Sanz

Looking for in-house broadcast technology that could provide superior quality and scalability, TVCLM chose Avid systems after an in-depth technical comparison of the options on the market. The installation was undertaken by PROMOVISA, an Avid Premier Reseller with headquarters in Madrid and extensive experience as a broadcast integrator.

TVCLM is using Avid systems for content creation of all programs broadcast from the new station. And, from day one, the Avid systems have proven to be highly reliable and efficient. Technical installation and training were completed in two months, providing approximately 20 journalists with the ability to create between 80 and 90 news items for two 50-minute daily news programs.

The Ultimate Workflow

At the core of the installation is an Avid Unity for News shared storage system with the capacity for 200 hours of DVCPRO 25 video. The news editing is done using seven Avid NewsCutter Effects editing stations, all with

simultaneous access to shared projects and media. In addition, a PortServer Pro system connects ten Avid NewsCutter XP workstations to the Avid Unity system, providing journalists and producers with access to shared projects and media. Avid Unity users can also access the Avid iNEWS newsroom system for the preparation of newscasts from the same workstation.

The ingest of six raw video inputs is handled by two 48-hour Avid AirSPACE video servers. An Avid iNEWS system processes eight agency wire feeds and provides production and scripting capabilities at 30 journalist workstations.

Once edited, stories are played directly into the studio or transferred to a pair of Avid AirSPACE video servers. These servers are remotely operated through the Avid iNEWS ControlAir machine control application and can either play into the studio or transfer media straight to the transmission servers. In turn, the output from the studio can go live to air or be recorded onto the transmission servers (a second pair of AirSPACE servers).

Journalists Make the Story

Journalists prepare and modify the rundown for air on the iNEWS system. The rundown provides the event list for the character generators, the prompter, and video servers during broadcast.

Most of the editing work is done at the journalist's workstation where Avid iNEWS and Avid NewsCutter applications work in perfect harmony, allowing users to edit footage and add audio in precise time with the script. With character generator software installed at each workstation, more than 90% of the daily news is finished and ready for playing to air without further editing.

Since the ingest process is centralized, tape has been largely eliminated. In last-minute scenarios, a DVCPRO 25 VTR can be connected to an Avid Unity client workstation to record media directly into the Avid Unity system, either through a FireWire (IEEE-1394) connection for Avid NewsCutter XP Mobile systems or through an SDI connection for NewsCutter Effects systems.

Complete with Graphics

The TVCLM production center includes a Post Production and Graphics Department with a second Avid Unity workgroup that has the capacity for 40 hours of uncompressed video. Ingest to the system is provided by an Avid Xpress system, while editing and compositing are handled by an Avid DS client workstation. For more complex audio compositing, a Digidesign® Pro Tools® [24 digital audio workstation with control console is connected to the Avid Unity system. Client workstations are also equipped with SOFTIMAGE® XSI™ and SOFTIMAGE® 3D digital animation software. Additional Avid creative software, including Avid Media Illusion™ and Avid Matador™, help create a true collaborative environment among the different applications sharing media through the Avid Unity system.

■ Avid products integrate seamlessly with TVCLM's other production systems as well, allowing the station to make the best possible use of all of its in-house systems. ■

Station of the Future

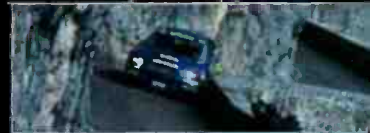
Avid products integrate seamlessly with TVCLM's other production systems as well, allowing the station to make the best possible use of all of its in-house systems. The complete installation includes a Virage catalog system; a Spectraview low-res MPEG-1 encoder from IPV; a Petasite DTF2 robotic data tape library from Sony; Avalon Archiver archive management software; a DAL playout automation system; an Encoda Vision traffic control system; and a Media 360 media asset management system from Ascential.

By doing its research, TVCLM found a broadcast solution that is reliable and efficient — and can meet the needs of a television station just starting out in today's competitive broadcasting environment. With a range of Avid products, TVCLM has created an integrated workflow that will form a solid foundation for its programming well into the future.



Images on this page courtesy of Castilla-La Mancha.

Avid Unity Takes to the Road



by Sofia Rychlik-Hadley

with World Rally Championships 2002

As more than four billion fans worldwide gear up for the World Rally Championships (WRC) 2002, a unique partnership is "burning rubber" behind the scenes, bringing viewers the latest action-packed footage. For the first time ever, this year-long program of rally events is being produced using the latest nonlinear editing technology networked via Avid Unity MediaNet and delivered by award-winning team members, Chrysalis TV and BBC Resources, on behalf of the WRC.



Images on this page courtesy of Chrysalis TV.

The Only Real Choice

Historically, tapes were searched and events manually logged on paper before the tapes were passed on to an editor who would search through the footage to find the correct shots. Source tapes also had to be dubbed to enable different broadcast clients to edit their own programs — another process that tied up footage. While this method was effective, the nature of the linear process limited any spontaneity. "If there was a major incident on one of the stages an hour or so before we went to air, it was not usually possible to get the shots into that day's programming," says Mike Williams, senior producer at Chrysalis TV.

It became clear that the team needed a solution that provided for shared media access, multiple operators, and flexible scalability to meet tight deadlines and provide for concurrent editing. Chrysalis TV considered several products, including offerings from Leitch and Quantel, but after much in-depth research, Avid Unity MediaNet proved to be the only solution that could fulfill all of its requirements.

"Avid was really the only choice," says Tim Breadin. "We needed to be up and running quickly, and we were familiar with the Avid user interface, which we knew to be simple and easy to use. More importantly, for such a major financial outlay, we needed to be confident of the manufacturer's long-term technical investment strategy and have access to a worldwide support network. Avid gave us all of this and more."

Taking a Test Drive

Last October, the OB truck was set up with the new Avid installation for its initial outing at The Network Q Rally in the United Kingdom. The setup

incorporated a seven-client Avid Unity MediaNet system with MediaManager software, three Avid Xpress editing systems, and two Avid Media Composer 9000 XL editing systems. As footage came in from crews on the rally stages and on-board DV cameras, it was digitized on the Avid Xpress systems straight into MediaNet. Key shots were logged using MediaManager. The footage was then retrieved, via the MediaManager browser, from the Avid Unity system and edited on the Media Composer systems.

"The Network Q Rally was effectively a trial for the 2002 World Rally Championships, and we were delighted with the way the systems performed," says Breadin. "The [Avid] Unity [system] allowed several editors to work on the same footage at once, including the U.K.'s Channel 4, which had a live feed from [Avid] Unity into their own on-site edit suite, something that just wasn't possible before."

Road Ready

With the new season now well underway, the portable setup has been put through its paces in Monte Carlo and Sweden, delivering two news feeds and one complete 30-minute program each day, then feeding the packages via satellite to 140 countries. In addition, a 60-minute highlights program is produced on-site for each event. Currently, Channel 4 and Finnish broadcaster YLE are linked directly to the Avid Unity system at each location, and negotiations are now underway to link additional broadcasters.

The portable facility has also grown to include three more Avid Xpress systems and another Avid Media Composer 9000 XL system, with plans to add more editing systems in the future. The

impact of this nonlinear environment on the postproduction workflow has been unmistakable.

"The key things that really stand out are the amazing degree of flexibility and the ability to expand easily, allowing us to keep pace with demand and with revenue-generating opportunities," says Breadin. "Avid has enabled us to establish a sound foundation to service this increasingly popular sport, giving us the ability to focus on delivering creative editorial content."

■ ■ We needed to be confident of the manufacturer's long-term technical investment strategy and have access to a worldwide support network. ■ ■

Tim Breadin

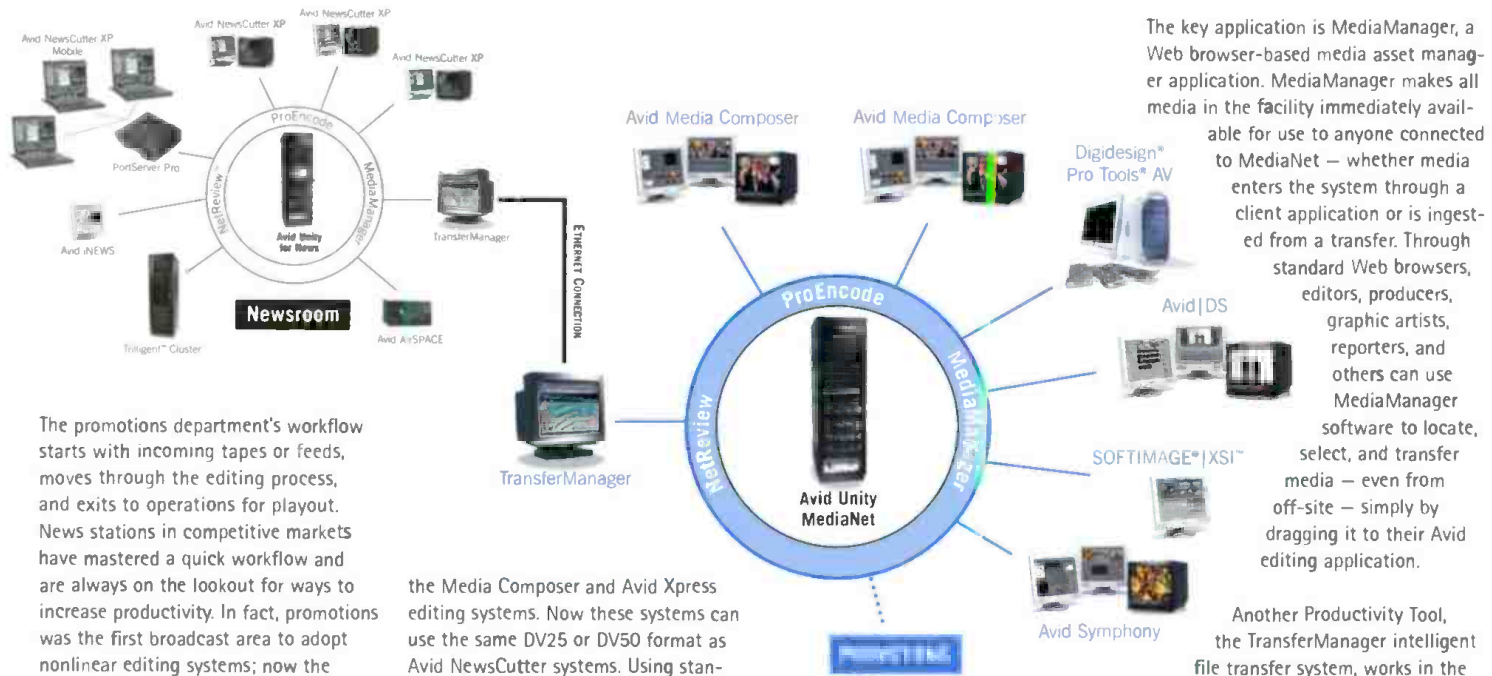
To handle the ongoing production, the team equipped an outside broadcast truck (OB truck) that could follow the route of the championships around the globe to diverse locations such as Sweden and Kenya. In addition, Chrysalis TV (the producers) tasked BBC Resources with developing a new approach to the traditional linear editing model used in previous years.

"Our production requirements have increased dramatically over the past three years from producing news feed material in 1999 to [creating and delivering] complete programs on-site last season," says Tim Breadin, head of production at Chrysalis TV. "We wanted a solution that gave us more flexibility, could develop with us, and had the ability to serve numerous broadcast clients."

Opening the DV Door to Promotions

It's no surprise that broadcast news is becoming increasingly competitive. The pressure to get stories to air first — along with compelling teasers and promotions — is greater than ever. The responsibility for selling the news is a key mission of the promotion department. And it's not an easy task when access to footage and turnaround time are limited.

by James Frantzreb



The promotions department's workflow starts with incoming tapes or feeds, moves through the editing process, and exits to operations for playout. News stations in competitive markets have mastered a quick workflow and are always on the lookout for ways to increase productivity. In fact, promotions was the first broadcast area to adopt nonlinear editing systems; now the Avid Media Composer, Avid Xpress®, and Avid Symphony systems are found in stations worldwide. With nondestructive editing, 2D and 3D effects, audio, and other capabilities, nonlinear editing has become a promotions department staple.

Meeting Format Challenges

On the news side, a similar revolution is gaining momentum. DV and D10 MPEG formats are taking hold in acquisition, editing, and playout. More nonlinear news editing systems are being used, and new features — such as support for shared media networks, interoperability with newsroom computer systems, and support for DV and D10 formats — are poised to finally replace linear, tape-based production.

Still, the promotions staff has to wait for tapes and then re-digitize material into formats that Avid editors can use. While this process is not terribly time consuming, it is an additional step in the creative process. That's why Avid added the newly available DV option to

the Media Composer and Avid Xpress editing systems. Now these systems can use the same DV25 or DV50 format as Avid NewsCutter systems. Using standard networking, clips can be sent from a newsroom system to a promotions workstation, and finished spots can be delivered to a compatible digital playout server without going back to tape.

Improving Workflow

Many promotions departments use multiple nonlinear editing and graphics workstations. While these systems may be linked with conventional networks, a sequential workflow often remains. Files are pushed from workstation to workstation, which works fine — unless the same media or several transfers are needed simultaneously.

Now, with Avid's latest shared media networking and storage technology, additional productivity benefits can be gained through simultaneous access to and flexible sharing of projects and media. Some stations already use the Avid Unity MediaNet shared media network to link Avid Media Composer and Avid Xpress editing systems with their audio workstations. This nonlinear

production workgroup is the second phase of the digital transformation.

Other types of workstations or even remote systems can also be connected to MediaNet. For example, Adobe After Effects and Photoshop, two applications commonly used in promotions, can reside on the same MediaNet workgroup, whether they are Macintosh, Windows NT, or Windows 2000 platform-based systems. Working on an Avid Unity-based workgroup, media is directly accessible, so promo work can start the moment news editors begin cutting the story. Workflow is seamless between news and promotions, and promotions staff can do a better job, doing what they do best.

A Whole New Level

A collection of interoperating applications, collectively called Avid Unity Productivity Tools, enhances the already powerful Avid Unity MediaNet, taking the workflow to a new level.

The key application is MediaManager, a Web browser-based media asset manager application. MediaManager makes all media in the facility immediately available for use to anyone connected to MediaNet — whether media enters the system through a client application or is ingested from a transfer. Through standard Web browsers, editors, producers, graphic artists, reporters, and others can use MediaManager software to locate, select, and transfer media — even from off-site — simply by dragging it to their Avid editing application.

Another Productivity Tool, the TransferManager intelligent file transfer system, works in the background to move media into and out of the shared media workgroup. In conjunction with MediaManager, TransferManager enables media files to be transferred automatically from one MediaNet workgroup to another. A third Productivity Tool is ProEncode™ software, which creates streaming versions of promos and news stories as a background task. With material available more quickly, editors can create more compelling promotions that make it to the Web more quickly, while news is still fresh.

Getting access to material can be a challenge. But with enhancements such as the DV option for Media Composer systems and Avid Unity for News workgroups, the promotions staff can receive and output media in a format compatible with other systems at the station — without the wait. Better yet, people can use their time and creative tools more efficiently to complete the station's mission: to pull more viewers to the newscast.

CBC



RDI

Avid iNEWS Helps Bring It All Together at CBC/Radio-Canada

Back in 1995, Radio-Canada — the French-language arm of the Canadian Broadcasting Corporation (CBC) — was getting ready for change. The corporation had just launched RDI (Reseau de l'Information), a 24-hour French news network, and it was clear that both the new channel and its parent network needed to re-think their resources and their facilities.

by Michael Abraham

"When we launched RDI, we decided to pool some of our resources, which meant that the actual news-gathering operation was run by Radio-Canada, which would then feed material to RDI," says Richard Simoens, production manager at Radio-Canada. "It quickly became clear that, rather than duplicate services, we would be better off adding more resources to the Radio-Canada newsroom to ensure that we could cover the needs of both networks."

When somebody brought back a field tape, for instance, he or she would bring it directly to the Radio-Canada newsroom, though the 24-hour RDI would typically need to use it earlier. This meant either duplicating or physically delivering the tape between facilities and hoping it arrived in time.

"The other big factor influencing our decision was that a lot of our equipment was reaching the end of its usefulness," says Simoens. "We had to make a decision at that point either to renew with other tape machines or go to a digital, server-based environment. Obviously, we wanted to go with a more cutting-edge environment." So Radio-Canada amalgamated the

two newsrooms into the Centre de l'Information, or CDI, a single, multipurpose newsroom designed to simultaneously serve both networks.

iNEWS at the Core

The entirely new, all-digital facility was launched in November 2001. The new "super-newsroom" is a unique blend of systems, both old and new. CDI not only uses the new MOS (Media Object Server) Gateway in the Avid iNEWS™ v1.4 system to communicate with its Quantel video servers and Omnibus environment, but also uses Avid's native machine control solution to control its Chyron character generator.

"We've been Avid clients for quite a few years now, so we were already familiar with the systems," says Simoens. "In the end, we decided to stay with the iNEWS system because we were able to work with Avid to address our specific needs. They responded incredibly well and quickly, helping us link the iNEWS system with our Omnibus environment and Quantel video servers. There was great collaboration between all of the companies involved to find something ideally suited to our needs. We had some specific things that we needed and wanted, and we were able to transmit that information to the iNEWS engineers and developers. It was a quite remarkable, collaborative process.

"I think we helped iNews evolve somewhat," adds Simoens. "We are a major client, and we needed something quickly. To their credit, Avid focused their attention on helping us do what we wanted. We knew we wanted iNews [products] at the core of the entire system, to be the center block of everything we were doing."

Looking Forward

With the launch a few months behind them, CDI now looks forward to future benefits from its digital environment. "We've already seen huge advantages, so we can foresee even bigger benefits coming down the line," says Simoens.

"Right now, for instance, we're able to use iNEWS [systems] to write our scripts and view video material when it arrives on the server. So now reporters can do a lot more right from their desktop, without having to get up and go to a screening machine or edit suite. That's certainly a big gain."

Simoens sees the creation of CDI as the first of many more enhancements to come. "We want to make sure that we can centralize all of the information available to us in one area, then make it usable for everybody; not just for French television, but for all of the CBC and Radio-Canada," he says. "Whenever possible, we want to multipurpose information and material to make it useful over more than one component. So, that's our next step: managing content on a more global, more corporate level."

Given the success of the project thus far, the iNEWS system is an ideal fit at the core of CDI and its plans for the future.

|| We had to make a decision at that point either to renew with other tape machines, or go to a digital, server-based environment. ||

Richard Simoens

Radio-Canada Télévision



The Impact of Direct Ingest

by James Frantzreb



The Xdeck front panel comes complete with an LCD touch-screen display and menu interface for programming a variety of functions and for monitoring the feed.

As broadcasters work to improve productivity and contain costs, the importance of an integrated, nonlinear workflow is becoming better understood. And with advances in capabilities and affordability, shared media networks have emerged as the key to solid infrastructure for better workflows.

Well-designed media networks can handle many simultaneous streams of high-resolution video and, in turn, support simultaneous ingest, editing, and media transfer tasks from a central pool of media storage without compromising broadcast quality. These networks incorporate facility-wide media asset management to enable anyone to find and use media at any time.

For example, the Web browser-based MediaManager component of the Avid Unity for News system automatically catalogs and tracks material as it's ingested or recorded anywhere on the network and makes that material immediately accessible to all client workstations. A well-designed shared media network should also have the ability to move media throughout the system without slowing other operations. In an Avid Unity for News environment, the TransferManager application uses standard IP network connections within the Fibre Channel media network to handle background media transfers, allowing other tasks to continue without interruption.

Optimizing Ingest

With a media-optimized infrastructure in place, let's examine ingest — the beginning of any news facility workflow. The primary requisite for handling feeds is accommodating peak ingest demand, which can be as high as 30 simultaneous feeds for major market stations. Coupled with this are feed scheduling and other control aspects of ingest, as well as quick sorting or triage of the feeds for usable content. Preservation of timecode (or the ability to record house timecode) and overall system reliability are also vital.

Traditionally, ingest is handled with tape or digital video servers. An array of tape decks is dedicated to ingest. Tapes are cycled to triage stations or delivered manually to journalists or editors.

Now, video servers are capable of handling multiple channels of ingest, eliminating tape expendables as well as the labor involved with tape handling. In addition, Avid has enhanced the typical server-based workflow by enabling the Avid AirSPACE video server to record directly to the Avid Unity shared storage system that all of the editors share. Ingested media can be left on the server while only the desired segments are forwarded to editing stations. Alternatively, entire feeds or field tape material can be transferred for journalist review or craft editing.

The main benefit of video servers is flexibility; video servers can be used for play to air and are compatible with many analog tape devices, routers, and digital servers. In some cases, it still makes sense to stage the video in a server before moving selected clips to shared storage. However, as media networks with larger capacities become more common, dedicating video servers to the task of ingest may make less sense to some broadcasters.

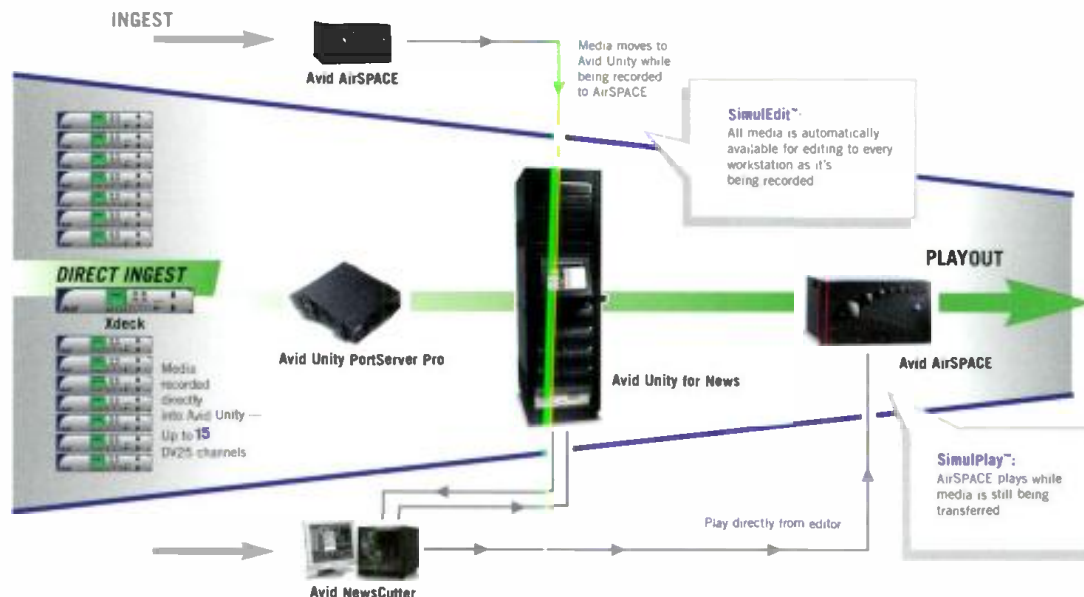
From Ingest to Access, Instantly

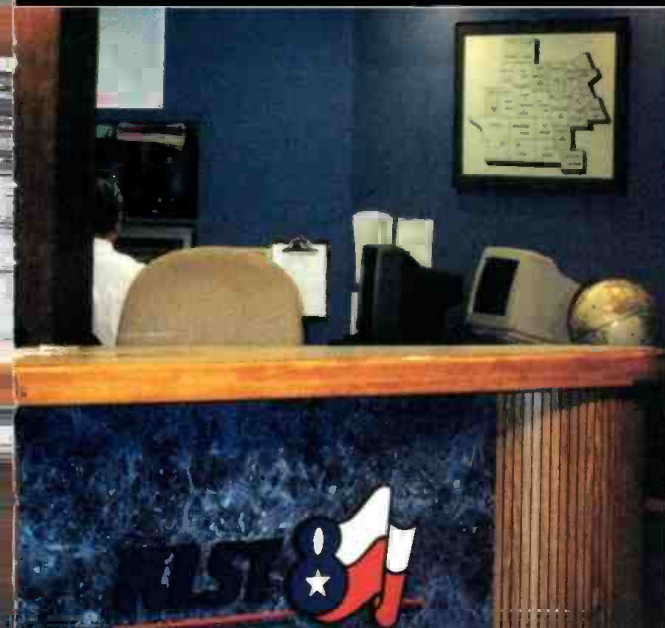
For those broadcasters, Avid is developing the Xdeck ingest device, an efficient, scalable, and lower-cost way of ingesting material directly into an Avid Unity for News or LANshare shared storage system. The Xdeck unit acts as a "virtual VTR," simply recording DV25, DV50, D10 (MPEG 50), or Avid JFIF resolutions into shared storage on-the-fly and over Ethernet networks. Requirements for multiple-feed ingest can be easily met while keeping costs down by adding multiple Xdeck units in a 1:1 ratio per feed channel. Onboard component and composite video and unbalanced and AES/EBU audio inputs are provided, and Gbit Ethernet can be used to connect Xdeck units directly to shared storage, where each feed can be viewed or edited within ten seconds after the recording starts. Editors will be able to access media while it's still recording, allowing tasks to be completed in parallel and speeding the news process from triage through production.

Another recent Avid innovation, the PortServer solution, enables an array of Xdeck units to handle enormous ingest requirements. The PortServer system

optimizes the Fibre Channel switch ports used by Avid Unity for News systems, consolidating up to ten DV25 clients or Xdeck ingest devices on a single port. Xdeck devices and Avid NewsCutter clients can connect to both a PortServer system through common 100BASE-T Ethernet connections and an intermediary Ethernet switch. In this configuration, handling 50 or more simultaneous ingest channels is easy and relatively inexpensive and, with the Xdeck 2U form factor, highly space efficient. For smaller facilities, the Xdeck unit will connect directly to the new LANshare shared media system via Ethernet without a PortServer system. The Xdeck unit provides both RS-422 protocol remote control and front-panel local control. Timecode is preserved, and external time code is supported.

The ingest process is a fundamental part of the newsroom. With the advent of nonlinear editing and infrastructure, purpose-built devices such as the Avid Xdeck system can make the ingest process more controllable, more flexible, faster, and less costly.

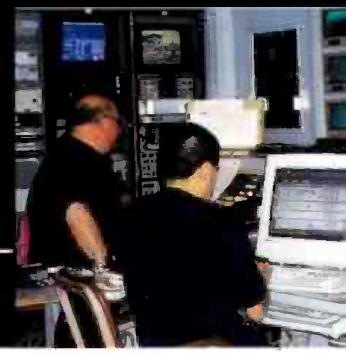




Images on this page courtesy of KLST-TV, San Angelo, TX

Nonlinear News Production for Everyone

by Ellen Camloh



same time," says Johnathon Howard, broadcast solutions architect for Avid. "Existing tools such as graphics, animations, still stores, and audio applications can connect and share the same media — all using standard networking."

Low Cost, High Quality

Keeping the platform open is a crucial factor for broadcasters with restricted budgets and staff. Because the networking scheme is basic 100BASE-T Ethernet, there is no need to hire additional personnel to support complicated storage and access issues. And because many stations are working with smaller news staffs, Avid designed each component with existing news professionals in mind, enabling everyone to learn and use the system without extensive technical training.

KLST-TV in San Angelo, Texas, is one such station with a small news staff. "Reporters in small stations like ours need to be able to do everything from shoot to write to edit. We don't have the budget for a large staff — they have to do it all themselves," says Kristen Clark, morning and noon anchor for KLST-TV news.

"Because journalists can edit so quickly and easily with NewsCutter systems, they're able to produce more stories and cover more events," says Clark. "But not at the expense of the station's professional image. The quality of stories has jumped light years with the Avid NewsCutter systems. Edits are more precise, and everything can be adjusted easily. The end result is a much better story for journalists, even for those with little or no training."

For experienced craft editors with years of training, features such as recording directly to the timeline from linear formats, motion effects, clip extend, and Web publishing all make the Avid NewsCutter system an uncompromised and effective professional tool. Editors can use other NewsCutter system features to shorten mundane but necessary tasks — such as repurposing 6:00 p.m. SOT packages into 11:00 p.m. anchor VO's with a few clicks or automatically cycling through shot choices to determine which works best. This way, editors gain more time to use their craft editing skills on complete packages. Meanwhile, the learning curve remains short for high-end editors and other users at any level. This makes a collaborative environment accessible to everyone in the newsroom, enabling faster production immediately.

Sharing Media Smoothly

Playout to air from the Avid AirSPACE video server provides many more cost and quality benefits. Stations can realize low or zero tape expendables and avoid getting locked into a particular tape format. And since some stations use legacy tape-based devices in addition to nonlinear workstations, the AirSPACE video server is intended to keep the entire platform open, supporting both analog and digital production systems.

Even the picture is superior to tape. Footage that starts out digital remains digital throughout, so the on-air result is professional broadcast quality without the generational loss inherent in tape. The time savings are dramatic too. Instead of physically transporting the tape to an operator and into the deck, then rushing to re-cue the story, the Avid AirSPACE video server can play the

finished package out to air even as it's being transferred from the NewsCutter system, faster than real time.

Even in its most basic configuration, the cost of the bundle includes AirSPACE automation software that extends video operations further by controlling playout from any desktop PC, providing remote I/O with VTR-like controls and performing comprehensive media management. Robust AirSPACE computer storage and software technology ensures that media is protected and playout operations are uncomplicated, error free, and on time.

Acting as the central point of access integral to smooth newsroom workflow is the Avid Unity LANshare shared storage system. The LANshare system is designed to be so simple to administer that users can manage their own stored media workspaces. Virtual workspaces appear as mapped hard drives on the user's desktop, the same as standard mounted network drives. The FlexDrive feature lets users click and drag to create or re-size their own allocated workspaces.

News Where It Happens

An advantageous result of combining the system components into one package is portability. "The same setup used in the newsroom that connects NewsCutter editors to shared storage and direct playout translates easily to a satellite truck setup," says Becki Phelps, product marketing specialist for Avid Technology's Workgroups and Storage group.

Add the flexibility of Avid NewsCutter XP Mobile software, and a broadcaster's field crew gains an affordable notebook-based solution that can connect with other editors and push a complete story to an ENG truck's AirSPACE video server. Alternatively, back at the station, a

NewsCutter XP Mobile system can save even more time by plugging into the Ethernet port to transfer an EDL (as well as only the required footage) for finishing at a NewsCutter Effects or NewsCutter XP station.

Shared high-resolution assets, remote editing, direct playout from the network, open technology standards, and affordability are answers to the quality, speed, and budget problems afflicting smaller to mid-size broadcasters. By combining server technology with nonlinear editing, Avid offers an effective and affordable nonlinear workflow that can help stations of all sizes continue to thrive.

|| The end result is a much better story for journalists, even for those with little or no training. ||

Kristen Clark

No More Excuses

Do your competitors keep beating your news to air while you're frantic to get the late-breaking lead story finished by 6:00? If so, you know you have to increase your newsroom productivity. But if your station is like most local stations in the United States, you faced layoffs and budget cuts last year, while still producing the same amount of news (or even more). Your edit bays, schedules, and people are maxed out every day — and there is no way to spend more time on a story before the show.



Kathy Munoz, News Director, KLST TV news

How can stations improve productivity and on-air product when resources are stretched to their limits? One key to affordable productivity and efficiency — even in the smallest news markets — is collaborative workgroups.

True Collaboration

Beginning at NAB2002 in Las Vegas, Avid is offering an affordable package to provide a true collaborative environment for newsroom teams. The unique collection of broadcast products will enable stations to connect nonlinear news editing clients into a cohesive workgroup, giving all of them simultaneous access to the footage they need.

Included in the bundle are up to ten Avid NewsCutter nonlinear editing

systems, which link together via the included Avid Unity LANshare shared storage system. An Avid AirSPACE™ video server completes the package by playing finished NewsCutter stories or promos to air at high quality, even while transferring them from the editing system at up to five times faster than real time.

With a starting cost of approximately \$150,000 (USMSRP), the basic configuration is an affordable solution that gives stations in small and mid-size markets a notebook-based, four-client workgroup; the proven Avid Unity shared storage file system; and the industry-leading AirSPACE video server for reliable playback. Adding more clients or upgrading from the software-only

NewsCutter XP Mobile system to a NewsCutter XP or Effects system lets stations start their workgroups small and increase capability easily.

Real Workgroup Efficiencies

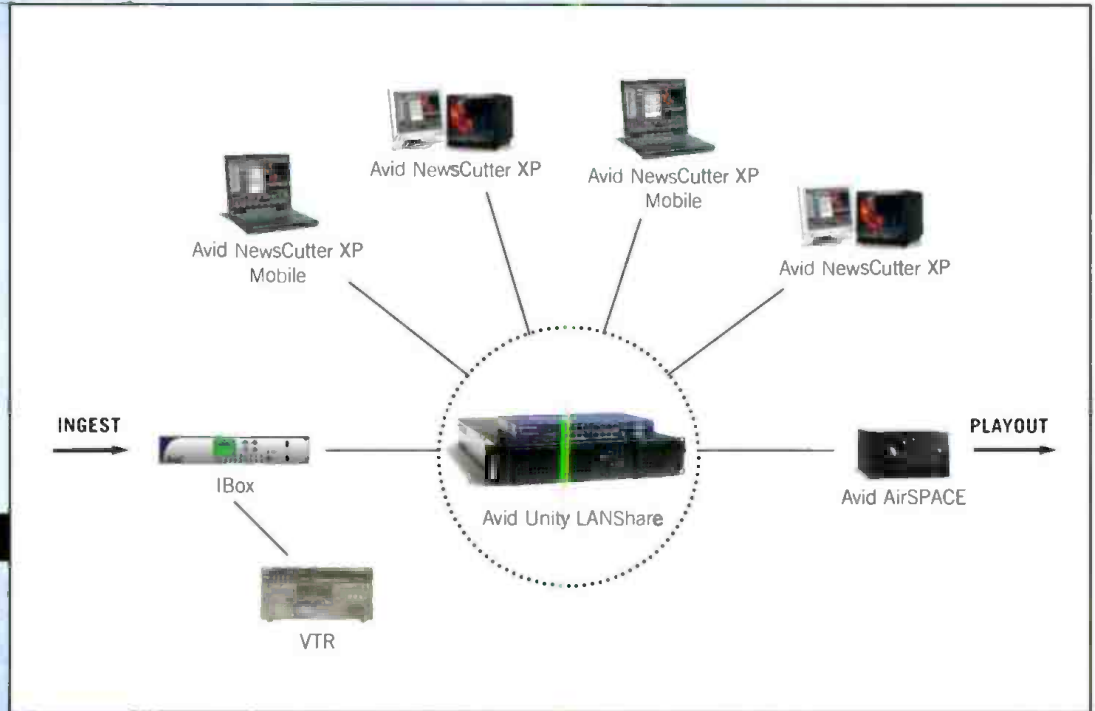
Workgroup environments are the logical heirs to conventional news production, which requires each task to be completed before the next one begins. In a traditional newsroom, this can mean the promotions department is unable to create a teaser for the lead story until the editor is done using the footage or until the operator makes a duplicate — even though the promo has to hit the air before the package. In stations that have converted part of the analog process to digital by purchasing nonlinear editing workstations, if editors still have to

dub the finished package to tape before delivering it to the tape operator, both the time savings — and cost benefits — may be negligible.

By contrast, a nonlinear workgroup can eliminate the obstacles inherent in analog news production. "This new Avid package will provide stations with an environment that removes linear dependencies, because material is available to everyone who accesses the system — journalists creating shot lists, editors working on stories, producers reviewing footage, the promotions department creating teasers — instantly, all at the

|| This new Avid package will provide stations with an environment that removes linear dependencies, because material is available to everyone who accesses the system ||

Johnathon Howard



Planning for Productivity: The Nonlinear Facility

by Rich Griffin

Planning your transition to a nonlinear news environment provides a great opportunity to re-examine the tools used by the creative professionals in your facility to broaden their capabilities and help your station stay on top. Many factors — some less obvious than others — need to be addressed for this transition to be successful.



Images on this page courtesy of Canadian Broadcasting Corporation.

Start from the Top

The news process always starts with ingest, either by direct feeds into the station or from crews in the field. Plan to accommodate the total number and different types of streams coming in at a single time. This includes satellite feeds, studios, field crews, microwave relays, and so on. Should the material be triaged first or should complete feeds be available to everyone immediately? Does the material come from the field in edited form? SDTI or SDTI-CP would allow for faster-than-real-time ingest of this material. Should you automate feed capture and link it with your newsroom system? Consider your video on demand system too.

Create Once

Production is an area prone to inefficiencies and deserves special attention. Today, producers, directors, editors, and journalists still often rely on a single technology for sharing newsroom information: the printer. But when a story changes, the paper trail has to start all

over. This process can easily introduce errors and delays into the mission-critical process of getting accurate news on the air.

Instead, imagine the gains made by keeping all the media in the digital domain, turning a serial process into a parallel one. For example, when a feed begins, everyone in the station can simultaneously access it within seconds — and all assets can be managed by a single operator.

Think about how productivity could be improved if shot selection and basic editing tasks were performed by a journalist or producer on his or her desktop and then stories were finished by craft editors. What tools should your journalists use? What tools do you require in the edit bays?

And while a basic editing system may seem an attractive choice at first, a simple system may quickly reach its limits and become a less-than-

productive asset for the duration of its amortization schedule. Instead, examine how well the editing system can be integrated with the newsroom computer system. For example, can you view scripts and edit stories based on the read rates of the anchor?

Deliver Everywhere

Economy demands that your media assets be available in many formats, including those suitable for your station's Web site. Your editing equipment should support this "create once, deliver everywhere" philosophy. Can your sports and graphics departments use your media without resorting to making a baseband dub first? Ideally, every department will have the same instantaneous access to the media that your journalists, producers, and editors have.

The instant availability of information to everyone on the team is critical to maintaining an edge over your competition. While standard asset management systems often ignore the news produc-

Have you chosen a format? Everything from field acquisition to news editing is based on this decision. Look for a vendor that can support a change in format if required.

tion workflow, the tools you use must be tuned to work in this area. For example, an integrated system designed for the production process should tell you how often a clip has been re-used on air and, if that number is too high, recommend alternatives. Search criteria should be flexible and robust and include samples of the media returned from the search. The interface to this system should also be accessible from any location via a Web browser.

Start to Finish

It's airtime! The on-air control system must work symbiotically with the rundown. If a producer re-orders the rundown, your system should automatically transfer all the elements that make up the stories: prompter, character generator, still store, and video server. In fact, an elegantly designed system will prioritize the network transfer of media based on this dynamic rundown, ensuring the story first up is given preferential treatment.

It's also important to remember the skill sets and training needs of various individuals within your facility. Don't forget to plan for proper training so that everyone can master these new tools.

Finally, communication within your own facility and with your vendor is key to a successful transition to a nonlinear facility. Make sure that your information systems department and your engineering department are involved in all areas of the implementation to ensure a smooth conversion to the future of broadcast production.

Playing to Win: NBC and Avid at the Winter Olympics

The numbers are staggering. Within about a two-week period, NBC shot more than 40,000 hours of footage and delivered 375 hours of live coverage for the 2002 Winter Olympic Games in Salt Lake City, Utah. While a worldwide audience watched breathtaking scenery and raw emotion, a behind-the-scenes army of 2,500 team members worked around the clock at NBC's broadcast facility in Salt Lake City and kept pace with a whirlwind of victories, defeats, and unpredictable weather.

by Tina Rapp

Now with Avid Unity, the proof is in the pudding. Seeing Avid systems being used at a live Olympics is a major leap from where we were just five years ago.

David Mazza

standard environment, were also essential for NBC's programming and graphics creation. "We have to work in a multi-standard environment. It's just the nature of our business," says Mazza. "We might be editing PAL one morning and NTSC in the afternoon, so that was a key factor for us."

New for the 2002 Games was the use of Avid systems in the graphics department where editors created highlight packages, bumpers, end-arounds, and so forth. In fact, the largest Avid Unity MediaNet workgroup, with 4.2 terabytes of shared storage, resided in the graphics area along with Avid Unity TransferManager, which enabled file transfers between MediaNet workgroups to happen in the background. Avid Unity MediaManager was also used for easy searching, sorting, managing, and retrieving of data.

Managed Chaos

While the data flowed more smoothly than ever, plans often changed throughout the day. "Weather delays often cause that to happen," explains

Mazza. "If an Alpine event like the downhill gets delayed or postponed, it could cause an indoor event like speed skating or figure skating to all of a sudden need three or four times as much programming as they were expecting to deliver. So the edit rooms had to be able to very quickly adapt to these changing requirements from the producers."

In particular, the Media Station system helped improve productivity, enabling production assistants, producers, and editing assistants to digitize, log, catalog, and then output media back to tape, while the main editing session was still going on. "That's key for us because in a room where there is only a single seat, the editor can't possibly get everything done in the time span we have allotted," says Mazza. "The other people who can now work on the Media Station, or the multiple Media Station systems, very much added to the workflow of the edit."

The new chunking feature of the Media Station system, which allows media to be saved at the end of a

specified time interval, also offers timesaving advantages for live broadcasts, says Mazza. "For example, if they are recording speed skating, you can turn chunking on for a one-minute interval and, every minute, another minute's worth of material is available to the editor, so media can be constantly updated."

Rapid Reliability

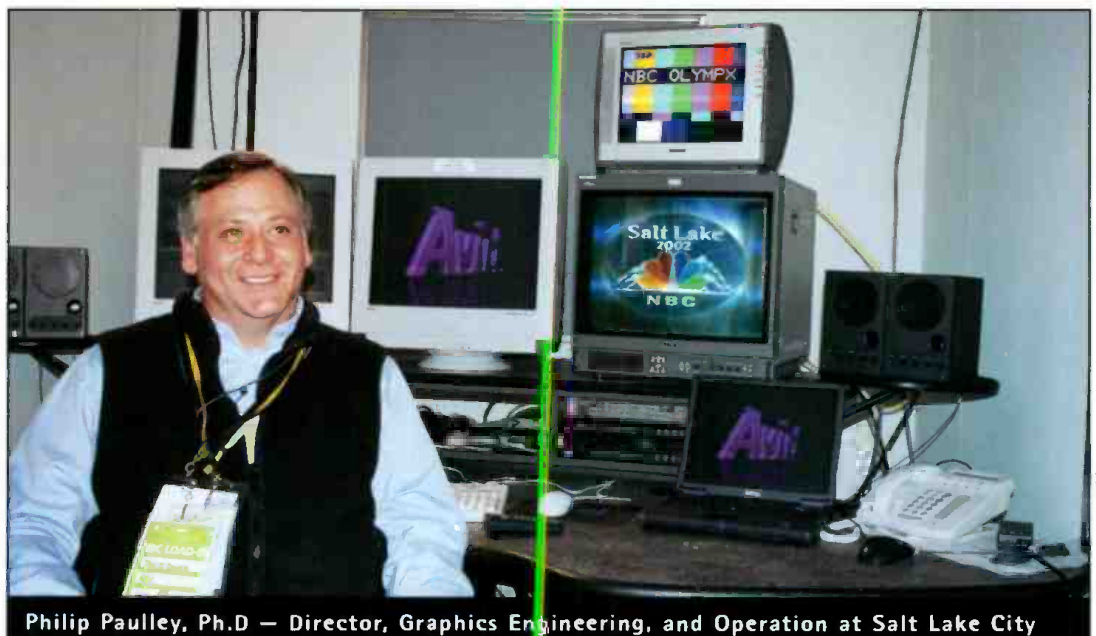
For the Olympic Games, it is all about delivering quality programming under the most critical time pressures imaginable, and there is no room for error on a show watched by millions of viewers. "When Avid first started making Media Composer® systems, they were great for a boutique post house, but in the broadcast environment we had other issues — rapid turnaround, reliability, systemization of SDI, picture quality," explains Mazza. "Now with Avid Unity, the proof is in the pudding. Seeing Avid [editing and shared storage] systems being used at a live Olympics event is a major leap from where we were just five years ago."

To support NBC's broadcast effort, the network relied on 14 Avid Symphony™ high-end editorial finishing systems and 11 Avid Media Station XL digitizing and output stations connected to 7 Avid Unity MediaNet shared media networks for simultaneous access to and flexible sharing of projects and media. Together, these systems constituted the largest suite of Avid solutions ever used at a sporting event.

Straight from Sydney

David Mazza, vice president of engineering for NBC Olympics, has worked on Olympic Games coverage since 1984. It was at the 2000 games in Sydney — when NBC started using the Avid Unity MediaNet system in combination with Avid's editing systems — that Mazza became convinced that Avid systems were up to the challenge of creating sports programming in a live broadcast environment.

The Symphony system's comprehensive editorial and finishing capabilities, including Universal Editing and Mastering for working in a multistan-



Philip Paulley, Ph.D — Director, Graphics Engineering, and Operation at Salt Lake City

flow Arrives

Avid Unity for News: *The Time Machine*

- Provides the only true NLW front-to-end solution
- Delivers third-generation reliability and functionality
- Provides cost-competitive implementation, unmatched return on investment
- Ingests multiple streams for immediate access across an organization
- Has a server-assisted architecture without client-server limitations
- Frees time and resources to create world-class newscasts with a small-market budget

only the most exceptional events warrant scavenging through closets full of archival tape to add depth to breaking stories. NLW makes it easy to utilize media assets. Crafting multidimensional stories with context to show relevance to viewers becomes the norm. Such qualitative gains translate directly to quantitative growth in ratings and revenues.

As airtime arrives, logistical functions that have typically dominated the action can now be pushed to background automation. For example, the broadcast team can focus on production priorities while Avid Unity TransferManager software works behind the scenes to ensure that stories arrive on time and on target. Gone is the need for someone to spend valuable time placing the right tape in the right slot at the right moment. Or consider how the Avid iNEWS ControlAir™ automation-assist system can manage device payout from a single screen. This process can eliminate errors introduced by multiple operators who are forced to view different screens and negotiate among them via headset.

After airtime, media assets can be reused, recycled, and repurposed into special projects to enhance local program offerings. The entire archive is forward-compatible so that upcoming opportunities in DTV and ITV can be exploited easily.

The entire NLW process is seamlessly integrated and failsafe. It can be scaled throughout an organization, meeting the requirements of small individual stations as well as large station groups. And early adopters can enjoy an added advantage in recruiting and retaining

talent — as the best and brightest employees will soon demand experience in NLW environments.

NLW Now!

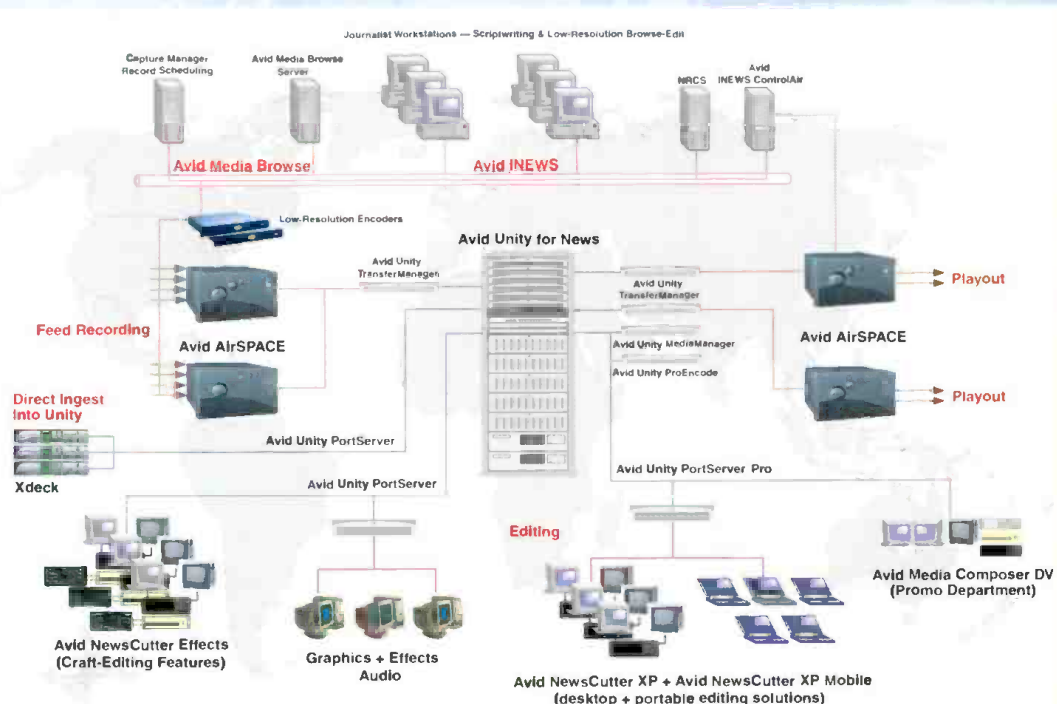
Despite the incredible impact of information technology, newsroom operations have remained remarkably resistant to change. Now, the widespread adoption of NLW is poised to bring the first fundamental change in television news production since the advent of videotape. With the end of Betacam SP, stations are at the decision point. Supporting this discontinued format will soon become more costly than switching to NLW. Why just adopt

another tape-based format? For the same investment, digital cameras complete the NLW environment, eliminating the need to ingest footage in real time. Video data is imported directly and is available instantaneously. Here, NLW means *no longer waiting!*

Why Not?

Avid has done the groundwork to make the transition to NLW simple, straightforward, and practical. The bottom line? NLW is no longer a matter of "if" but "when." When will you take the initiative and establish new levels of quality and economy in your news operation? The race is on. Be a winner.

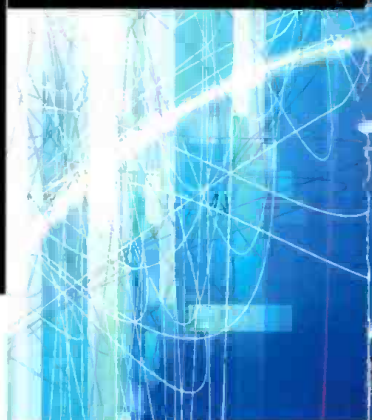
■ ■ With the end of Betacam SP, stations are at the decision point. ■ ■



True Nonlinear Work

by Carl Lindemann

Television news production runs like a relay race. But that race is being run with a tape-based workflow that is starting to show its age. Investing in analog tools to improve performance has reached the point of diminishing return. So, what's next?



From story assignment to playout, tape is passed around the newsroom like a baton. Producers, reporters, and editors take it, tear through their part in the process, then hand it off to the next in line. The challenge is to keep in sync with the rest of the team while running as fast as possible. At every step, mistakes threaten to trip up the entire operation. Without extraordinary concentration, a newscast quickly turns from smooth to stumbling. Achieving excellence is almost too much to ask.

Still, just surviving will not suffice. Competition over dwindling markets and money is accelerating. For most broadcasters running the relay race, the only hope for remaining viable is to push harder. But how do you push past exhaustion? Something has got to give. This Betacam-based workflow, like the format, has finally reached its end-of-life phase. What can take its place?

The Next Event

As the only all-digital developer in the broadcast business, Avid has arrived at a fundamentally different approach — the Nonlinear Workflow (NLW). It is a fresh vision not bound by analog assumptions. With its end-to-end NLW solution ready, Avid is changing the ground rules of television news production so the relay race can become a sprint.

With NLW, the same talents and abilities are simply used more productively as tasks are carried out simultaneously instead of sequentially, eliminating an enormous amount of repetition and nonproductive effort. In the NLW environment, a news team can cover the same territory as before without breaking a sweat. Like trading cue cards for teleprompters, the transition from traditional analog methods to NLW's elegant simplicity is not just a quantum leap forward, it is a foregone conclusion.

Is It Time?

There has been talk of NLW for years, so why hasn't it swept the industry already? Until now, cost kept it restricted to the largest broadcast facilities. But with an enormous R+D investment in the Avid Unity™ for News system, Avid has pioneered a workable NLW concept and accelerated its evolution. Over the last several years, the Avid Unity system has attained its current mission-critical

stability as the industry's only third-generation NLW solution, while information technology has advanced exponentially. Gains in CPU power, storage capacity, and networking capabilities have broken the price barrier. Now, at NAB 2002, NLW is a practical reality for any station with a commitment to news. It offers a cost-effective opportunity to gain strategic advantage. The real question is who will be the first in your market to take the initiative? Who will have to scramble to catch up?

Of course, price isn't the only issue. The transition to NLW is an "all hands on deck" proposition. It requires an across-the-board commitment from management and staff to trade familiar habits for new methods. This demands patience and discipline. It also requires broadcasters to take a hard look at their optimal workflow before making the great leap forward.

One temptation is to opt for the quick fix promised by some digital solutions. The attraction is that these systems emulate the analog process and, therefore, are easy to adopt. Many are standalone applications operating independently of one another. Others may be networked but can't be fully integrated. All can only bring incremental gains to individual tasks. But by using these systems, the legacy "relay race" remains — along with its inherent limits in productivity. While these systems are "digital" they cannot offer real solutions to break through the bottleneck.

A True NLW Solution

The Avid Unity for News system has been painstakingly crafted, polished, and proven to achieve the transformation to true NLW. It is designed from the file system on up to facilitate broadcast

news — a sharp contrast to the legacy workflow defined by analog techniques. The entire news team can gain simultaneous access to digital media assets while sharing projects and media with each other. Suddenly, the scattered elements come together to form a whole greater than the sum of its parts.

The system's server-assisted architecture is specifically engineered to act as the digital backbone in the news environment. This is a break from client-server setups only intended for playout in a linear workflow. Such client-server based systems have inherent shortcomings that make them ill-suited for NLW. By comparison, the Avid Unity for News system combines the robust qualities of server-assisted design with inexpensive, industry-standard components that can be easily integrated with third-party systems.

Make, Manage and Move Media™

The Avid Unity for News system ingests multiple streams into shared storage so media is immediately available across the organization. Instant access to high-resolution clips makes it possible to craft versions quickly for multiple broadcast platforms. For example, online and on-air promos can draw viewers throughout the day by unveiling angles and aspects in developing stories. At the same time, content maintains a consistent feel and format to reinforce station branding objectives.

Some of the greatest gains with NLW come from freeing time to leverage talent and resources. In linear settings,

With NLW, the same talents and abilities are simply used more productively as tasks are carried out simultaneously instead of sequentially.

Introduction

Television broadcasting has never been more competitive. And sophisticated newsroom technology has never been more essential for supporting news gathering and production 24/7. As more broadcasters recognize digital nonlinear technology as the professional solution for speed, quality, and reliability, smart broadcasters are taking digital technology a step further. They are demanding an additional benefit: choice.

What kind of choice? A choice of workflow options. A choice of price points. A choice of platforms and interoperability options. From small studios with modest storage requirements to large broadcast facilities with a complex range of editing and storage needs, broadcasters are identifying flexibility as a key component in their overall technology strategy.

This issue of *Broadcast IMPACT* explores the choices available to broadcasters today in the ever-changing broadcast news cycle. Inside these pages you'll find in-depth discussions of the latest trends in digital nonlinear workflow technology, tips on how to plan for an all-digital nonlinear broadcast facility, and the latest product news about Avid editing, networking, and shared storage systems designed specifically for the broadcast industry. You'll also get an inside look at major broadcasters, such as NBC and the CBC, who have made digital nonlinear technology work for them in the most demanding broadcast environments — and the steps they are taking to ensure those systems keep pace with the fast-moving television news market.

In a business that is predicated on being first, broadcasters can't afford to play catch-up with their technology. Now's the time to take a hard look at your technology strategy, then choose the options you need to stay ahead of the pack. Your choices today may dictate whether you are able to increase audience share and attract more sponsors — and emerge as a market leader.

Editor: Danielle Krause, Avid Technology, Inc.
Contributors: Carl Lindemann, Michael Abraham, Tina Rapp, James Frantzreb, Ellen Camloh, Rich Griffin, Sofia Rychlik-Hadley, and Luis Sanz
Special thanks to: Tim Breadin, head of production at Chrysalis TV; Mike Williams, senior producer at Chrysalis TV; Kristen Clark, morning and noon anchor for KLST-TV news; Richard Simoens, production manager at Radio-Canada; David Mazza, vice president of engineering for NBC Olympics

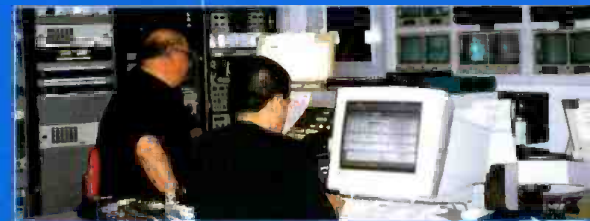
Images on this page courtesy of NBC; KLST-TV, San Angelo, TX; Castilla-La Mancha; Chrysalis TV

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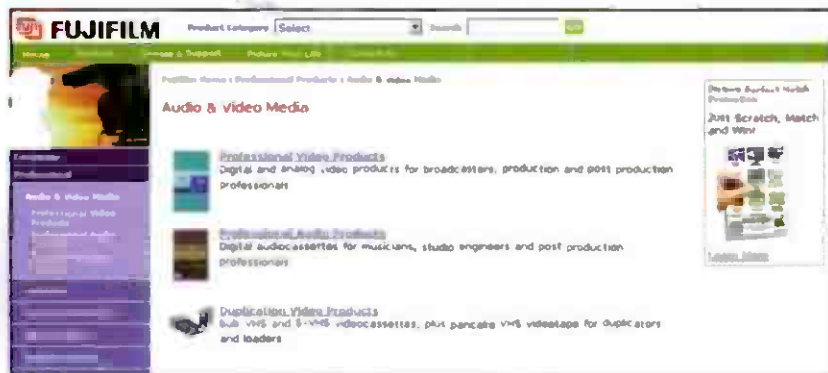
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Some of the new features available right now include:

- A new home page with direct links to all Fujifilm product categories
- Improved "Service and Support" features
- A searchable "Press Center" that is updated daily

In the very near future, a new "Where to Buy" database with mapping capabilities and direct dealer web site links, and the Fujifilm "e-Partners" section for the exclusive use of our Authorized Dealer customers, will be available for preview. Bookmark the new www.fujifilm.com now and keep checking back for these new features.



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2002 CALENDAR OF EVENTS

National Association of Broadcasters (NAB) www.nab.org NAB 2002 Convention, Las Vegas, NV	April 6 – 11, 2002
Radio-Television News Directors Association (RTNDA) www.rtna.org 2002 RTNDA International Conference and Exhibition, Las Vegas, NV	April 8 – 10, 2002
WEVA International www.weva.com 12 Annual WEVA Expo 2002, Las Vegas, NV	August 26 – 29, 2002
The Society of Broadcast Engineers (SBE) www.sbe.org Northern New England Broadcasters' Show, Manchester, NH TAB/SBE Annual Convention and Trade Show, TBA Central New York Regional SBE Convention, Verona, NY Broadcasters Clinic, Madison, WI	June 20, 2002 August 21 – 23, 2002 September 26, 2002 October 15 – 17, 2002
Society of Motion Picture & Television Engineers www.smpte.org SMPTTE Digital Cinema Summit at NAB 2002, Las Vegas, NV 144th SMPTE Technical Conference and Exhibition, Pasadena, CA	April 6 – 7, 2002 October 23 – 26, 2002
Audio Engineering Society www.aes.org 113th AES Convention, Los Angeles, CA	October 5 – 8, 2002
Government Video Technology www.gvexpo.com Government Video Technology Expo (GV Expo), Washington, DC	December 4 – 5, 2002

Fujifilm DTF2

Storage of large amounts of video and audio material requires media designed specifically to protect those assets, and to ensure that whenever you need to call up your work, it's immediately available. Fujifilm DTF2 cassettes bring more than four decades of producing professional videotape together with our exclusive ATOMM-II technology to produce the ultimate in data storage media.

Fujifilm DTF2 cassettes are ideal for long-term, file-based storage of broadcast and post-production material, particularly as part of data asset management systems. DTF2 will be available for delivery this spring.



Fujifilm REALA 500D

REALA 500D is the world's first high-speed (E.I. 500) daylight-type motion picture film and is particularly effective for shooting productions that make heavy use of HMI (Halogen Metal Incandescent) lighting.

Featuring Fujifilm's exclusive 4th Color Layer technology, REALA 500D delivers smooth, lifelike skin-tones, sharp, fine-grain textures and natural, faithful color reproduction. Additionally, REALA 500D's high speed means it captures even shadow information with great subtlety and details. This makes it ideal for conversion into digital image data for high quality video.



Fujifilm's New Look On The Internet

The name and address are the same, but the look is brand new. Fujifilm is back on the web with an exciting new Internet presence and featuring more information than ever before. With a newly designed, intuitive interface and providing even greater functionality, www.fujifilm.com should be the first stop for anyone looking to find the latest in Imaging and Information products.

The new www.fujifilm.com offers more than just a facelift. Based on feedback from both consumer and professional customers, along with qualitative research that included on-line usability testing, we've re-engineered our web site from the inside out. Our new site was designed to provide our customers access to a full-range of new services, some of which are available now and others that will be added in the next few months.

(continued on pg. 12)

A New Look for Fujifilm HD33I



A well-respected member of the Fujifilm product family is getting a facelift, but the changes are purely cosmetic.

Beginning this summer, our HDCAM product, Fujifilm HD33I will come loaded in a black cassette shell and packaged in a new, black storage case. The change is being made as a result of feedback from our customers, who want to make it easy to distinguish our HDCAM product from other professional half-inch formats. There will be no change to the tape inside the cassette.

The change to the new color shell and case will occur over time, as current inventories become depleted. The Fujifilm product numbers will remain the same.

Fujifilm DVD-RAM for Video



It's a well-known fact that Fujifilm has long been the name to trust for data storage products. Now come three new DVD-RAM products made specifically for video applications.

Fujifilm DVD-RAM discs and cartridges for video use come in three varieties: 120-minute disc, 120-minute cartridge (Type 2) and 240-minute cartridge (Type 4). Each can be recorded, erased and recorded again more than 100,000 times without any loss of quality. Excellent for archival use, they have a lifespan of more than 30 years.



Fujifilm DVD-RW and DVD+RW for Video and Data

With the addition of these two new products, Fujifilm now offers recordable DVD products compatible with most every drive currently available. Fujifilm DVD-RW and DVD+RW are ideal recording media for video and audio materials, and can also be used for data storage.



Fujifilm DVD-RW utilizes a high-performance phase change material that is ideal for mass storage and long archival life. Fujifilm DVD+RW features a lifespan of more than 100 years and can be played on most DVD players and DVD-ROM drives after they've been recorded.

density applications where low noise characteristics are necessary. The acicular shaped ferromagnetic metal particles are the best choice for higher output, narrower track-width designs.

Evolution of Recording Density with Magnetic Layer Coated Recording Medium

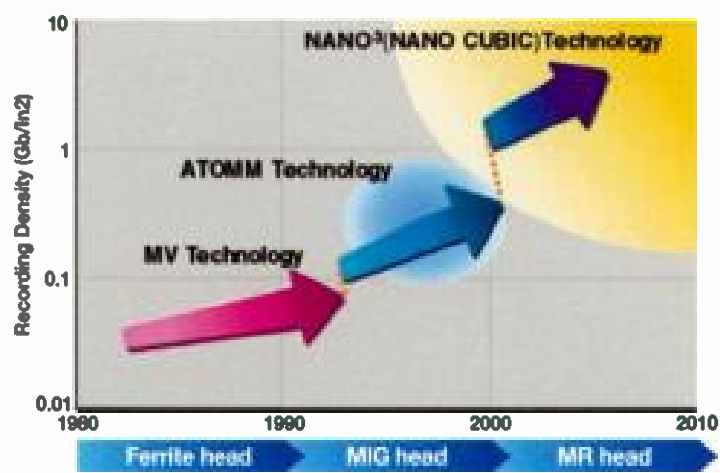


fig. 3

These revolutionary nanometer-scale particles can be packed with greater density (see fig. 3) and aligned much more uniformly than current metal particles.

The result is that NANO CUBIC products will achieve:

- A recording density of more than 3 Gb/in², enabling 1 TB native recording capacity in a half-inch cassette. Additionally, the capacity of a standard 3.5" flexible disk can be increased to 3 GB.
- Significantly reduced media noise, which will greatly improve C/N results.

NANO-DISPERSION:

A newly developed polymer compound binder is used to uniformly disperse the magnetic particles of a few dozen nanometers in size in an orderly manner. This technique allows for the minute particles to chemically separate from each other, avoiding the clumping together of the materials in the suspension of binding materials. As a result, clearer, more defined recording patterns can be achieved in high-density recording, which is critical for increasing the recording capacity.

The following will give you some idea of what 1TB in storage translates into for video applications. These examples assume NANO CUBIC technology is used in a half-inch VHS-sized form factor:

- 200 two-hour segments of broadcast quality digital video in NTSC format.
- 40 two-hour segments of broadcast quality digital video in HDTV format.
- 1 two-hour segment of uncompressed digital HDTV material.
- 200 times the capacity of current 4.7GB DVD's.

By offering such superior performance characteristics, NANO CUBIC technology puts to rest the "tape is dead" sentiment. Tape-based products have a long history of providing a wide range of customers a reliable, durable and very cost-effective means of storing information. Now, with NANO CUBIC technology, users can continue to rely on these historic strengths while enjoying the benefits of advanced groundbreaking products that will satisfy their high-capacity media storage needs well into the 21st century.

Applications using Fujifilm's NANO CUBIC technology that are in development include: magnetic storage tape, both for helical scan and linear recording formats; high-capacity floppy disks; high-definition, long-duration digital video tape for broadcast and home use; and data and video storage tape for home network servers. High-end tape storage products for enterprise applications are also possible with this technology.

Fujifilm's NANO CUBIC technology will revolutionize the market for high-capacity storage applications and will drive the next generation of magnetic tape-based recording formats.

For more information on this revolutionary new technology, please visit Fujifilm's web site located at www.fujifilm.com.

Fujifilm made the following technological breakthroughs in the development of NANO CUBIC technology:

NANO-COATING:

The ATOMM coating technology has been further developed to produce a thin coating layer on a nanometer scale. With the ATOMM technology, a sub-micron magnetic layer is coated simultaneously onto a non-magnetic layer. The new NANO CUBIC technology follows a similar simultaneous coating method, but one that produces an ultra thin magnetic layer about one-tenth the thickness of the magnetic layers produced using the ATOMM process (see fig. 1). Such an extremely ultra-thin magnetic layer is necessary to achieve the sharper output waveforms in the short bit-length range that are used for very high-density recording. As an example of just how thin these magnetic layers are and to show how precise the coating process must be, Fujifilm has confirmed particle counts of less than ten particles in the thickness of a NANO CUBIC coated magnetic layers. As a result, NANO CUBIC technology can increase recording density by more than 10 times, and a flat frequency response can be achieved by optimizing the magnetic layer's properties to take advantage of the high-sensitivity performance of MR (Magnetoresistive),

Photograph of Cross-Section of Tape

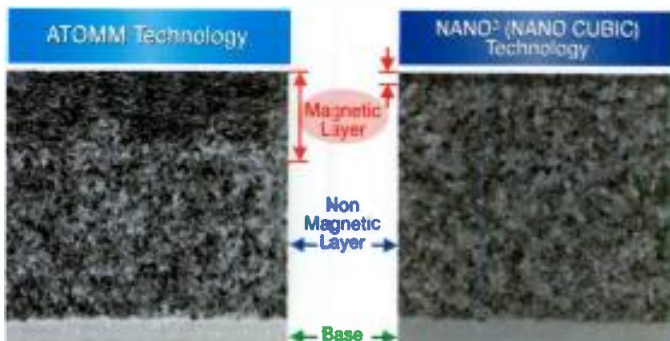


fig. 1

GMR (Giant Magnetoresistive) and TMR (Tunneling Magnetoresistive) head technology.

Additionally, the ultra-thin NANO CUBIC coating is achieved using normal metal particle coating processes, not an evaporation batch production process. Existing ATOMM coating machines are used with new coating heads. This is significant because the coated metal process allows for continuous, cost-effective, high-volume, high-yield mass production.

NANO-PARTICLE:

Photograph of Magnetic Particle

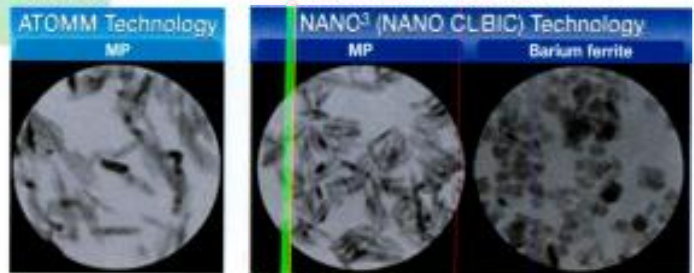


fig. 2

Two types of magnetic particle — with sizes to the order of tens of nanometers — have been developed to effectively reduce media noise and increase recording bit density. The first is an acicular ferromagnetic alloy particle of a few dozen nanometers in size, about one-half the size of an ATOMM-based particle. The second is a small, tabular ferromagnetic hexagonal particle of barium ferrite material known for its unique magnetic orientation (see fig. 2). Barium ferrite particles are ideal for increased packing densities and improved low noise characteristics. Depending on the application, either the metal particle or the barium ferrite particle can be chosen in the design of the next generation recording system. Barium ferrite is well suited for use in higher bit

The ATOMM coating process simultaneously applies two layers onto base film: a non-magnetic, titanium-based lower layer and an ultra-thin (0.2 µm), metal magnetic upper layer. The rigid lower layer forms an exceptionally smooth and durable base, which enables the thin upper layer to have a very high packing density and a very smooth surface. The result is that low and mid-range frequency response and color output remain high, while high-frequency response is increased. Additionally, video signals contain less noise due to the improved head-to-tape

contact. ATOMM technology enabled the development of such professional recording formats as DVCPRO and D9 (Digital-S) and has been used in the development of data recording products such as DLT™, LTO Ultrium™, higher capacity DDS and ZIP® disks.

Although ATOMM technology made sub-micron metal coating possible, the thickness of the newly developed nano-thin layer coated magnetic recording media is even less, by a factor of 10, than that of the ATOMM media.

(continued on pg. 8)

MARKETING & ADVERTISING

Updated Professional Product Guide Now Available

The fourth edition of our popular Professional Audio and Video Products Guide is now ready for mailing. Updated to include the latest digital video products and a number of new data storage media products, the new guide features 68 pages of facts and figures on the complete line of Fujifilm professional recording media products. For your own copy, contact your Authorized Fujifilm Dealer or call us at 800-755-3854, extension 8312 and we'll send one out to you. Ask for brochure # PPGUIDE-02.



Fujifilm Technology – More Than Just A Symbol



The logo you see here will soon be appearing in a lot more places. Fujifilm's product line has grown to include a lot more than just videotape, film and cameras and now our company's reputation as a technological leader will be acknowledged with this new symbol.

You'll see it on brochures, in print ads, on our new web site and even on promotional materials available from your Authorized Dealer or Fujifilm Representative.

Fujifilm MX321. A Brand New Print Ad

Now that more and more MPEG-IMX machines are making their way into the US marketplace, you'll begin to see our latest print ad showing up in many of the same trade publications in which you found this copy of ProVisions. And with MPEG-IMX camcorder products being introduced at this year's NAB and the demand for media for the format growing, we'll be showing up in even more publications, and more often, than ever before. After all, there are currently only two brands of videotape available for this newest format, but only one comes with the Fujifilm name and technology heritage.



NANO CUBIC

The Next Generation Magnetic Recording Technology

The rapid evolution of new digital recording technologies has dramatically impacted virtually every aspect of how video and audio professionals operate their facilities. Digital technology has enabled the development of a wide range of innovative new hardware (servers), new applications (streaming video), new broadcast standards (digital television) and new software (data asset management). All this new technology has resulted in an exponential increase in the amount of data that must be acquired, handled and stored on an ongoing basis. Storage capacity requirements are now being measured in terabytes and petabytes, instead of megabytes and gigabytes.

This is especially true in the broadcast and entertainment industries, where companies are digitizing their vast libraries in an effort to create potential new revenue streams by re-purposing their content for a variety of different delivery platforms. Data asset storage systems can require petabytes of storage capacity to handle their massive video, audio, text, image and metadata files. Additionally, as broadcasters move to offer true video-on-demand services, their storage needs are expanding dramatically.

In the production area, facilities need more capacity to store uncompressed HDTV material and to back up work done on non-linear servers. Even in the emerging area of e-cinema, high-capacity, tape-based media may be one of the options used in future systems.

Therefore, it is clear that, if future generations of tape-based media are going to meet the ever-increasing high-capacity data storage demands of the

audio and video industries, there is going to have to be an exponential advancement in both magnetic particle and coating technology.

To that end, Fujifilm, the world's leading developer of advanced recording media products, recently announced a breakthrough in magnetic media coating technology that will dramatically increase the storage capacity of flexible recording media. The new technology is called NANO CUBIC because the process involves the production of nanometer-scale fine particle thin layer coated magnetic recording media. Using NANO CUBIC technology, Fujifilm is planning future product development that could potentially include half-inch tape cassettes with a native, uncompressed recording capacity of one terabyte. This figure is ten times larger than the capacity for currently available conventional tape media.

This process of coating base film with nanometer scale thin layers requires a very advanced degree of coating technology expertise. Fujifilm has a long history of coating fine particle materials on a variety of thin, flexible substrates — not only in audio, video and data media products, but also in products such as 35mm motion picture and still films. Fujifilm's coating expertise led to the development and commercial production of Fujichrome Velvia 35mm professional still film, which contains a 17-layer emulsion coating, and enabled the development of ATOMM (Advanced super-Thin layer & high Output Metal Media) technology used in many of Fujifilm's current magnetic recording media products.



Yasuo "Nicky" Nishikawa has joined us as Senior Assistant to the President/Technical on his first overseas assignment. Nicky started with Fujifilm over 20 years ago supporting both the research and technical groups with our parent company in Japan. A graduate of Osaka University, Nicky currently resides in Chappaqua, New York with his wife Yuko and their two children, Tatsuya and Kaoru.



Jun "Jake" Ozawa has been promoted to Senior Assistant to the President and will continue to provide technical support to the Professional Products group. Jake joined Fujifilm/Japan in 1985 in the Production Engineering Department and later moved to the Quality Engineering and Assurance Division. In 1997, Jake took on his first overseas assignment as Assistant to the President/Technical here with Fujifilm USA. A graduate of Waseda University in Tokyo with a degree in Electrical Engineering, Jake resides in Ardsley, New York with his wife Atsuko and children Misato, Akihito, and Masahito.



Tony Ling joins the Professional Products Group as District Sales Manager covering Alabama, Georgia, Mississippi and South Carolina. Tony has had a long career with Fujifilm, most recently as Quality Assurance supervisor at the Fujifilm manufacturing facility in Greenwood, SC. Prior to that assignment, Tony was a Senior Technical Representative with the Magnetic Markets Division in New York. He resides in Greenwood with his wife, Marisa and their three children, Marcus, Alana and Emily.



Rich Mialovich joins us as District Sales Manager for the northern California and Pacific Northwest territory. Prior to joining Fujifilm, Rich held a sales position with Quantegy, Inc. covering the Los Angeles/Burbank area, northern California and the Pacific Northwest. Rich lives in Manhattan Beach, California.



Patrick Barber joins us as District Sales Manager responsible for professional products sales in Kansas, Missouri, Nebraska, Iowa, Minnesota and the Dakotas. Pat comes to Fujifilm with over twenty-four years of experience in the broadcast industry, first as a producer/director and later in broadcast equipment and media sales. Before joining Fujifilm, Pat was branch manager for The Tape Company. Pat is a graduate of the University of Kansas, majoring in Journalism. He resides in Lenexa, Kansas with his wife, Linda and their daughters Lauren and Jamie.

In Other Appointments:

Dave Perrin has been appointed to Director of Sales - Central Zone. Dave joined Fujifilm in 1984 and has held a number of sales and management positions in the Magnetic Markets Division. Dave resides in Cary, Illinois with his wife Mona and their two children Megan and Kevin.

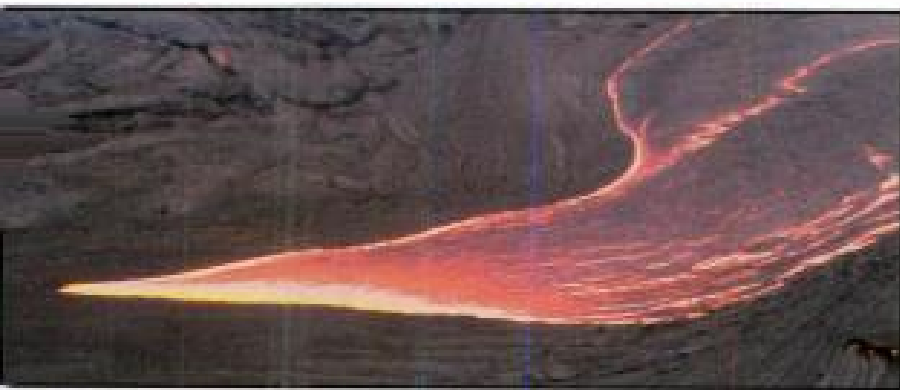
Randy Lucio has been appointed to Director of Sales - Western Zone. Randy has also held several sales positions in the Magnetic Markets Division since 1982, with his most recent position as Director of Duplication Sales. Randy resides in Huntington Beach, California.

Ty Atherholt has been appointed to Director of Sales - Eastern Zone. Ty joined Fujifilm in 1998 as an Account Representative in the New England/Upstate New York territory. Ty and his wife Suzanne reside in New Fairfield, Connecticut with their two sons, Samuel and Hunter.

(continued from pg. 3)

Getting approval from the US Navy to shoot at the Naval Training Center Great Lakes [Illinois] and in Coronado, California was a pleasant surprise. Said Schenk, "They have been busy dealing with the incredible responsibility of protecting our country. I was honored that they, along with the other participants, were willing to work with us on this project."

Shooting a live volcano was no picnic and took a lot of coordination by many. This time, the folks at Kurtis Productions solicited help from the United States Geological Survey and USGS Volcanologist Frank Trusdell. Even then, it was still challenging to get the shots. Matt Vogel, Technical Manager and Soundman for Kurtis Productions, told us, "In order to reach the lava flows, a helicopter was needed to transport the crew and equipment. Once at the site, we were faced with 30 MPH winds, driving rain and lava temperatures of up to 2800 degrees Fahrenheit." Getting the right shots was left to cinematographer Greg Gricus, but according to Vogel, it was not the only thing on their minds. "Filming was made more difficult by the danger of lava breaking from the hardened surface and forming new rivers, which could completely surround the crew." It was clearly a most volatile and perilous environment for any kind of shoot.



Not that shooting underwater was much easier. Wes Skiles is an intrepid, award-winning underwater cinematographer who has worked with Bill Kurtis on a number of earlier projects, so he was the obvious choice for this part of the project.



Shooting in the dark caves of the Yucatan offered its own unique set of technical challenges - the lighting, the remote location and harsh environment are three that come to mind - but Skiles was clearly at home here. The wonderful footage he delivered for Kurtis Productions shows just

how far he's willing to go to get the shot.

The Finished Product

The shooting completed, the next battle was to whittle hours of great footage down to ten minutes or less and still follow the storyline already scripted. Editor Jude Leak did the off-line work in-house and then the project moved downstairs to Post Effects, one of Chicago's premier post production facilities and recognized experts in High Definition. Post Effects handled the on-line edit for Kurtis Productions and then helped Fujifilm's Marketing Communications Group prepare the final material for viewing at the NAB Show. In addition, Post Effects authored the promotional DVD copy of the video that was distributed at the show.

The finished eight-minute video is much more than just a test of the quality and durability of Fujifilm HD331 videocassettes - it's testimony to the talent and skills of everyone who works with Bill Kurtis. Very few people with Kurtis's credentials would have accepted such a project, let alone taken it to the level that he did. The finished piece, entitled "Explore the World of Fujifilm," is quality Kurtis documentary from start to finish and displays the wide range of talent and services that the company can offer. With outstanding High Definition cinematography, an original musical score by composer David Huizenga and words that only Bill Kurtis can write and deliver, the viewer gets to see some of the world's great scenes through the eyes of this talented filmmaker.

Kurtis Productions is located at 400 West Erie Street, Chicago, IL 60610. Phone: 312-951-5700.

Post Effects is also located at 400 West Erie Street, Chicago, IL 60610. Phone: 312-944-1690.

(continued from pg. 1)

More Than Just Another Production Company

What separates Kurtis Productions from the rest of the pack can best be described as a unique kind of vision, and this clearly starts with Bill himself. The company thrives on new challenges, from unusual and sometimes difficult program topics to exploring new technical frontiers.

Employing 22 full-time staff and a host of freelancers has permitted the company to be flexible enough to meet existing programming obligations, while at the same time allowing them to take on interesting projects that come their way. Already known in the industry as pioneers in the application of new video technology, Kurtis Productions specializes in full-service, High Definition production for broadcast, live performance and specialty use. In addition, the company has amassed one of the country's largest libraries of High Definition stock footage, another valuable asset that sets them apart from others. It's a big investment that is now beginning to pay big dividends.

In addition to the work that Kurtis Productions has done with A&E, The History Channel and PBS (they aired his series THE NEW EXPLORERS for seven seasons), the company has produced a number of independent television programs in HD. Major projects, one a documentary covering the American-Mongolian Geo-Historical expedition to find the burial place of Genghis Khan, and another documenting the mysterious Ice Island of Antarctica, a gigantic chunk of ice from Antarctica's Ross Ice Shelf, are now in production.

It was this focus on High Definition, along with the love of a challenge, that first brought Kurtis and Fujifilm together.

The Fujifilm Project

With many broadcast and video professionals moving to the HD production formats and with Fujifilm's videotape product line going in the same direction, we were looking for a proper way to showcase our products in use by



real shooters, in real-life ENG/EFP situations. We wanted to produce a piece that we could use as a demonstration video at the 2002 NAB Convention, as well as something we could reformat for distribution after the show. Most of all, the material had to show that Fujifilm professional videotape was up to the challenges faced by our customers in the work that they do.

With the help of Fujifilm Professional Products District Manager Jerry Van Vliet, we were introduced to Bill Kurtis and producer Jamie Schenk, who accepted our challenge to develop, script, shoot and edit a short video using Fujifilm HD331 (HDCAM) videocassettes. We told them that the piece had to somehow show the wide range of difficulties that shooters could face, such as environmental extremes, logistics, and lighting, yet still show Fujifilm videotape and Fujinon lenses only at their best. Everything else was left to their imagination.

Just a week or so after our initial meeting, Bill had developed a concept, selected the locations and put together a crew of talented cinematographers to shoot the Fujifilm project. Kurtis carefully chose three real-life, but environmentally challenging situations, where videotape could be put to the test - on an active volcano in Hawaii, in the underwater caves of the Yucatan, with the United States Navy during training - and left Jamie Schenk to figure out how to make it all come together.



"Once Mr. Kurtis decided the creative vision for this piece, it was my turn to help put the plan into action," said Schenk. "It was exciting and challenging to produce HD shoots around the world."

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Let Us Hear From You

We welcome your feedback. Please send us your comments on this issue and suggestions for future issues. You may reach us by mail, fax or e-mail.

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Dear Audio and Video Professional,

Welcome to the latest edition of *ProVisions*, designed to keep you up-to-date on current news from the Fujifilm Professional Audio and Video Recording Media Products Division.

So much has happened in such a short time - it's quite a different world since our last issue. We've been through the tragedy of September 11th and the triumph of the Winter Games. New York City looks different and Americans think differently. The American spirit is back and all signs point to an economic revival. We look forward to the future, while remembering what has happened in the past. And with this issue of *ProVisions*, we move on as well, with a new look at the present and the future.

In our present is Bill Kurtis, one of America's premiere documentary filmmakers and this issue's cover story. His company, Kurtis Productions, has produced a number of award-winning documentary television programs and has now added a special Fujifilm project to their resume. Shown for the first time at this year's National Association of Broadcasters' Convention, this nine-minute High Definition production highlights the talents of the Kurtis team and the quality of Fujifilm's award-winning videotape technology.

The future for Fujifilm, and we believe the recording media industry, is called NANO CUBIC. This exciting new Fujifilm manufacturing technology has the potential to increase the amount of information that can be stored on magnetic media to ten times its current capacity. Complete details on this new Fujifilm proprietary media technology begin on Page 10.

Please read on for more about our new products, our newest people and our latest marketing news.

Sincerely,

Stan Bauer
Vice President and General Manager

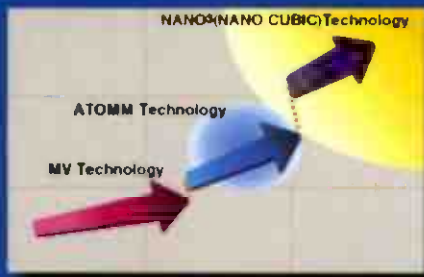
PROVISIONS

A NEWSLETTER FOR PROFESSIONAL AUDIO & VIDEO USERS

INSIDE THIS ISSUE:



Kurtis Productions



NANO CUBIC Technology



New Products



New Fujifilm Website

Bill Kurtis – A Voice with Vision

Chicago-based Kurtis Productions Focuses on HD

Millions know him as the anchor and Executive Producer of A&E's Emmy Award winning program, INVESTIGATIVE REPORTS. As a broadcast journalist, he has earned the respect of both his colleagues and his competitors. He is a recognized environmentalist and conservationist. If you see his face or hear his voice on television, it's like welcoming a family friend into your home.



Bill Kurtis, a man with such a varied career that it's sometimes hard to describe his occupation. After getting his law degree and passing the Bar, he began his broadcasting career in the mid-1960's as a part-time reporter for a local Kansas TV station. By the early 1970's, he was co-anchor with Walter Jacobson at WBBM-TV, the CBS O & O in Chicago. More than just a top-rated anchor team, they reported on a wide variety of topics and it was during this time that Kurtis began covering more stories in the field with his "Focus" unit investigations. He joined the CBS Network in 1982 and for the next three and a half years, anchored the "CBS Morning News" from New York.

It was in 1985, after returning to Chicago, that Kurtis decided to elevate his journalistic efforts to the next level and take on long-form documentary work. This resulted in the 1990 founding of Kurtis Productions, Ltd. and a new career as a full-time television program producer. In 1991, Kurtis joined A&E Network and over the years, his INVESTIGATIVE REPORTS series has presented some of the most talked about (and sometimes controversial) documentary programming on television. Kurtis's own company is behind the complete production of many episodes, while Bill, as the series Executive Producer, is responsible for them all.

(continued on pg. 3)

HBO
congratulates
the
2002
Broadcasting & Cable
Technology Leadership Award Honorees:

Kelly Alford, VP, Engineering
Ackerley Group

David Mazza, VP, Engineering
NBC Olympics

Tim Thorsteinson, President and CEO
Grass Valley Group

and our own

Bob Zitter, SVP, Technology Operations
HBO

HBO

HBO.com AOL Keyword: HBO

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David Mazza

He sees to it that NBC's Olympic technical effort pushes the limits of time and money



Mazza was born July 22, 1958, and now lives in Norwalk, Conn., with his wife and two children.

In 1984, he received his first National Emmy Award for his work as technical director on the Summer Olympics for ABC. He has received two others: in 1988 and 1992 as technical director for NBC's Summer Games coverage.

Other awards include a Monitor Award and ACE Award for HBO Championship Boxing and four awards from the Broadcast Designers Association.

Beyond sports, he also worked on MTV's first two Video Music Award telecasts.

DAVID MAZZA, VICE PRESIDENT, ENGINEERING, NBC Olympics, seems to have been the fairly typical engineer-to-be when he was growing up. "My mother tells me I took apart everything as a kid to see how it works before putting it together again."

It's the "putting it together again" that separates an engineer-to-be from, say, a neighborhood terror. It doesn't take a rocket scientist to take something apart. It's the rare child who can actually put something back together so it still serves a purpose. That's what makes an engineer.

Mazza is still putting things together. But what he puts together today, NBC's Olympic technical facility, shows just how far he has come from his days working in a black-and-white TV studio in junior high school and at Penn State's public-television station as a high school intern.

"TV and radio weren't an electronic business that was done in a back room," he says. "It had an output that people saw, and it had an effect on people, good or bad."

Mazza's work at NBC definitely fulfills those attributes. Spanning the 1996 Atlanta Summer Olympics, the 2000 Sydney Summer Games and this year's Salt Lake City Winter Olympic Games, it has helped ensure that hundreds of millions of viewers can watch what has become TV's most prestigious event.

Mazza began his career in 1978 as a freelancer, working for HBO (where he worked on all the championship boxing matches), USA Network and ESPN in the early days of freelance sports production. Basketball, hockey and other local sports were his calling card.

"I would drive to about five cities a week," he recalls. "It was a grind, but, at the time, I loved it."

And it gave him the training he draws on every day. "If the truck rolls in and something doesn't work or breaks during the day, you either have to fix it or go around it," he says. "I think that simple factor is something you learn in the remote world that you don't learn in the studio."

In 1986, Mazza hit his limit of life on the road. He spent 280 days going from event to event that year. Recently married to his wife, Taylor, and starting a family, he decided it was time to spend more

time at home. So, in 1987, he moved to Boston, where he spent half his time working on construction of a technical facility for the Christian Science Monitor Channel and the other half on the road.

He started to take on consulting jobs on smaller system-design projects and also worked for CBS at the 1992 Winter Games in Albertville, France. When he returned home from Albertville, he was contacted by Sony about helping out on the \$50 million Hughes facility in Los Angeles and Colorado. That job was a challenge because he became involved when the project was a third completed to help make sure the functional needs were met by the technical construction.

When it was completed, it was back to New York to visit NBC's then-vice president of engineering Charlie Jablonski, who asked him to head up NBC's technical efforts for the 1996 Atlanta Games.

"I never thought I'd work at a network. I never really had a desire to because it's so big and bureaucratic. But he presented me with the challenge."

It was accepted. Looking back on the experience, Mazza says it's the timeline that amazes him. "Once we started wiring, I had a pretty good sense of how long it would take [to get operational], but I never imagined how difficult the process of ordering and getting \$25 million of equipment would be. I think we were totally screwed and didn't even know it."

Mazza still hasn't encountered a project as complex as the "virtual International Broadcast Center" split between Atlanta and Rockefeller Center. The intercom systems were trunked together, the routing switchers were tied together, and there were T1 lines for getting information back and forth. "We were working with data networking before people were doing a lot of those things."

When the games were over, Mazza wasn't sure he was mentally ready for another go-round. But, in 1997, he re-upped. That's when he and his team began devising a multi-game technical strategy that would cut the integration time.

"All my colleagues and friends tended to be from the remote side of the industry, and they had the right mindset for how to make something portable and reusable," he says. "The scale was unlike any other remote we had done, but the same theories carry over, whether it's a weekend

'If the truck rolls in and something doesn't work or breaks during the day, you either have to fix it or go around it.'

BY KEN KERSCHBAUMER

remote or a five-month remote. So we looked at every piece of the puzzle and figured out which pieces we could build and move so we don't have to throw away so much stuff."

The result was RIBs, or "racks in a box." Conceived by his colleague Matthew Adams, it's akin to an inside-out remote truck, Mazza says. The RIB is against the wall, but the back of the racks are easily accessible. "You can have 20 racks together and designate subsystems within those platforms that cause all the high-density wiring to happen. That way, you don't have to cross over and deal with a cable each time."

The RIBs are broken down so they can fit in shipping cases and be put in storage until the next Olympics.

How big a difference do the RIBs make? Mazza says integration time was halved between Atlanta and Salt Lake City, with the latter completed in 37 days.

The biggest challenge at the recent games was integrating a large number of new technologies and products. Because they were held in the U.S.,

Mazza figured it would be the best time to try new equipment because vendor support would be easier to get and something could always be sent via FedEx in a pinch.

"It gave us a lot more gray hair than we had six months ago, but it worked out," he says. "In the end, most of it worked, and it didn't burn us on the air. Some of it was pretty close but nothing that prevented us from getting our job done."

Mazza is already preparing for the games in Greece next year. He heads to Athens later this month. The challenge? It won't be technical. "We're going to definitely earn our money in terms of infrastructure issues like power, air-conditioning, hotels and transportation."

The use of flypacks at Olympic venues, which require much less gear and space than production vehicles, is one way to help minimize costs and impact of infrastructure issues. There's still some time to go before the final push, which will begin in January. Plenty of time to bring gear in, see how it works, and put it back together again. For engineers, some things never change. ■

At the games in Athens, 'we're going to definitely earn our money in terms of infrastructure issues like power, air-conditioning, hotels and transportation.'

Alford (continued from page 14)

Alford recommends developing pilot teams with people who have expertise for the unique parts of the station.

"That way they can speak directly to the various departments and let them know what the changes are going to be," he says.

The effect on a station varies greatly if it is at the hub (the central point serving the content) or at the end of the spoke (receiving the content).

Obviously, the amount of work done at a hub station will no longer be for one station. Alford says that takes some adjustment. "The real sea change is that, at a hub location, everyone has to work for the common good of the stations, not just the one station," he explains. "Sometimes, preference is given to the station that was the long-standing station."

At the end of each spoke, the biggest change will be that many accounting, traffic, programming, promotions and master-control operations will be handled at the hub. The upside for the local station is that energies can be focused better on its core responsibilities.

"It actually allows the local station to concentrate on the things that really matter, especially in

today's economy," he points out. "That means a better local presence, including local news, and removing a lot of the distractions which are the back-office functions. You can actually superserve the market by not having these distractions. And management can be out in the community they serve by not having to deal with office issues all the time."

The staff transition to centralcasting can be done in three months, Alford says, adding, though, that those are going to be three months of continuous reorientation.

"We're changing the way television has been done for 50 years," he says. "If you can pull it off in three months, you're doing pretty good."

The creation of common technology platforms has also helped.

"Engineers can talk to each other and share information more than they ever did—which, in my view, is an advantage," he says. "Plus it takes a lot of the pressure off of me to remember what the issues are for each of the stations. And from an equipment-purchasing position, we get more muscle in negotiating because we buy group-wide instead of piecemeal." ■

'We're changing the way television has been done for 50 years. If you can pull it off in three months, you're doing pretty good.'

Thorsteinson (continued from page 16)

'If you went to our NAB booth in 1997, you saw basically one new product; everything else was six or seven years old. You did not see technology leadership. What you saw was a company that looked like it was on its last legs.'

old products behind. Thorsteinson eliminated 60% of legacy analog products in the switcher/router/modular-components segment and increased R&D investment to \$100 million during the next three years to capitalize on the pace of technological change.

He points to last year's NAB booth as an example of how that pace changed Grass Valley. "If you went to our NAB booth last year, you would have seen Vibrint editing systems, the MAN server, Kalypso switcher—all products that had been introduced in the past 12 months. They're also all products that have feature sets that give customers tremendous advantages."

It also gets back revenue. In 1999, GVG had double-digit revenue growth over 1998, with revenues peaking at around \$200 million annually. Since the dotcom bust, GVG revenues have held steady at \$180 million.

Working in the semiconductor industry gave Thorsteinson some advantages he has been able to capitalize on. He understands the building blocks that lead to the larger technology developments.

As he puts it, it's the inevitable march of Moore's Law.

"We can't fight those development curves," he says. "We have to ride them."

In his new role under the Thomson Multimedia umbrella, Thorsteinson will have a simple goal: to help keep Thomson Multimedia in a leadership position.

"If you're not a leader, and that means number one or two, you don't have the scale to afford the investment to stay as a leader," he says. "When I inherited the Grass Valley Group business, we had some markets, like nonlinear editing, where we were fourth- or fifth-ranked supplier. In that case, you're just swimming upstream. The amount of money you need to spend to become one or two steals money from the other places where you're doing okay."

His mantra towards development is simply four words long: "Be quick, be fast."

And with the Thomson Multimedia behind Grass Valley Group, there might be an addendum: Be big. ■

Zitter (continued from page 18)

'What's important is to focus on the things that we can do different in the future, and, if we can sort them out and identify the good ones before others do that, we're at an advantage.'

but that, if they won't, then send us the film and we'll make it. Today, it's improved, so that many studios are making HD masters of their films and sending us a dub."

The HDTV challenge was similar to that experienced in '92 when HBO offered its four digital networks using pre-MPEG-2 technology.

"There were very few engineers who had experience in digital technology, and, when the equipment failed, it failed differently than analog equipment and needed to be handled differently," he explains. "So, in 1991, we beta-tested it for six months with 30 cable systems before we rolled it out, so we could learn how to train everyone else. That's the same thing we did with scrambling and on-demand technology."

The move to on-demand technology is Zitter's latest endeavor. And it's one he believes is very important to the future of the industry.

"I think that on-demand television is going to be a seminal change in how consumers interact with TV, whether it's through on-demand or PVRs. It's going to give the consumer more control of what they want to watch and when they want to watch it. And what that means for each

network in the industry has various business ramifications, and that's why we're trying to get out there early."

Zitter says the on-demand technology (servers, etc.) is ready for prime time but is still the most challenging video technology that cable operators and networks have implemented since the days of satellite delivery when no one knew how to install a satellite dish.

"Integrating and automating it so that it isn't so hands-on is very important," he explains. "So is making sure that the technologies that are installed at the cable-system level can handle the technical model."

HBO's early trials of subscription VOD, for example, ran into a problem, although Zitter says it's the best problem to have: overwhelming demand. The model for the number of streams demanded was correct (typically supplying enough streams to reach 10% of the homes); the model for transaction demand on the front end was not.

"What's important," he says, "is to focus on the things that we can do different in the future. If we can sort them out and identify the good ones before others do that, we're at an advantage." ■

Award Ceremony



▲ *Broadcasting & Cable* magazine presented its fifth annual Technology Leadership awards on April 8 at the NAB show to four top tech executives. Shown above (l-r) are HBO's Bob Zitter; Reed TV Group Senior Vice President Bill McGorry; Ackerley Media's Kelly Alford; *Broadcasting & Cable* Editor In Chief Harry Jessell; Thomson Grass Valley CEO Tim Thorsteinson, and NBC's David Mazza.



▲ Reed TV Group's Bill McGorry (clockwise) with centralcasting expert Kelly Alford from Ackerley Media; NBC Olympics vice president for engineering, David Mazza; Thomson Grass Valley's Tim Thorsteinson; and HBO senior vice president, technology operations, Bob Zitter.

No one had to worry the microphone wouldn't work.

When *Broadcasting & Cable* held a cocktail reception for its newest Technology Leadership Awards inductees last week at the NAB, the room at Las Vegas Hilton was wall-to-wall with the brightest technological leaders of the day and some of their top employees.

Just like the small group of tech winners lauded in four previous years since the magazine began giving the award, this year's honorees distinguished themselves in a fast-paced industry where yesterday's great idea is the equivalent of tomorrow's eight-track tape player.

Bob Zitter pioneered cable multiplexing for HBO; David Mazza coordinated the maze of new equipment needed for NBC's coverage of the Olympics; Kelly Alford is teaching the broadcasting industry how to use centralcasting without a glitch for Ackerley Media; Tim Thorsteinson is a mastermind of new product development, Thomson Grass Valley.

The publishers and editors of *Broadcasting & Cable* salute this year's winners.



Rep. Gene Green (D-Texas)



Rep. Darrell Issa (R-Calif.)



Rep. Lee Terry (R-Neb.)



Rep. Greg Walden (R-Ore.)

Broadcasters beware

Lawmakers say lingering finance reform issues still have teeth

By Bill McConnell

A group of lawmakers largely supportive of the industry warned broadcasters Monday not to drop their guard on campaign finance reform.

Although broadcasters blocked the Torricelli amendment, which would have required stations to give federal candidates deep discounts on campaign ads, the reform that passed contains new obligations for broadcasters and there is a renewed fight brewing on mandated free airtime for those seeking office.

"Beware of that one; it's next," said

Rep. Greg Walden (R-Ore.). Rep. Gene Green, a California Democrat, said that broadcasters could better fend off future threats by making sure they provide substantial coverage of political campaigns. If lawmakers' reaction to ABC's flap over David Letterman and *Nightline* is any indication, though, new campaign reform burdens remain a possibility.

Although members of Congress don't want to take sides in the news vs. entertainment debate, they may be forced to, they say. "We're going to react if there is a public outcry," Rep. Greg Walden (R-Ore.) told his NAB 2002 audience. "There becomes a concern with members of Congress about whether information is getting to the electorate?" added Rep. Lee

Terry (R-Neb.).

Broadcasters worried that preserving news programs will hurt their profits need to find creative new ways to present public affairs programming said Rep. Gene Green (D-Texas). "You need to offer a product that can compete and not abandon the field."

Rep. Darrell Issa (R-Calif.), a critic of the recently passed reform law, called on broadcasters to repay the deference given to the industry by helping to "reform the reform." The bill puts new restrictions on soft money and negative advertising that Issa and others say infringe on many groups' First Amendment rights.

As for complying with the new finance reform law, the FCC is still reviewing whether new rules are necessary, but in the meantime stations will face some new obligations.

For instance, they must retrain advertising staff to determine whether candidate ads qualify for the "lowest unit rate" stations charge candidates for federal office.

Under the new rules, ads qualify only if they do not mention an opponent or, if an opponent is mentioned, they feature the sponsoring candidate's photo for at least four seconds simultaneously with a readable, printed statement confirming approval of the broadcast and that his or her campaign committee paid for the promotion. If it is a radio spot, the candidate also must personally identify himself and the office sought.

Stations also must place in their public file disclosure of all requests to purchase broadcast time for candidates or for spots that communicate a message "relating to any political matter of national importance."

All request notices must remain in the file for two years. The information must include whether the request was accepted or rejected; rate charged for any aired ad, the date and time of the request, the class of time purchased, name of the candidate and office sought, and the name of the person and organization attempting to purchase time. ■

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Thomson Grass Valley debuts

Company is banking on complementary product lines to drive U.S. sales

By Ken Kerschbaumer

The acquisition of the Grass Valley Group by Thomson Multimedia a little over a month ago is filled with inherent synergies and potential conflicts. Overlapping product lines, newly unified research-and-development teams, the merging of two management teams—even the question of what the company will officially be called—are all issues still being addressed.

That made Monday's introduction of two companies as one all the more important for the French electronics manufacturer, which purchased an American broadcast industry mainstay.

The driving reason for the acquisition, says Marc Valentin, vice president of Thomson Broadcast Solutions, was simple: More presence, better products.

"Only 20% of our sales were in the U.S. and that doesn't reflect our worldwide market. So we knew we had an issue in growing here in the U.S.," he says. "But the governing thing is the complementary product lines, like servers and modular products."

Even amid the transition, the company has been going through for the past two months, new Thompson Grass Valley products were ready for the exhibit floor in Las Vegas this week.

In addition to the Thomson Viper camera (B&C, April 8), there is the LDK 5000 SD camera with HDTV sensors and the LDK 6000 Mk II camera, which can switch between 1080i and 720p with the help of three, 9.2 million-pixel HD dynamically managed CCDs. Other new products include the standard-definition XtenDD production switcher, a transform engine for the Zodiak switcher, a new 1 mix effect control panel for Kalypso. A new routing



The new Thomson Grass Valley draws a crowd at its first NAB convention as a combined company.

switcher, the Trinix 512 (512 inputs and 512 outputs in a 32RU chassis), was also available for inspection.

Under the new management structure, Tim Thorsteinson, former president and CEO of Grass Valley Group, will be vice president of the combined switcher, server, digital news production, router, master control, facility control and modular product lines; Rob de Vogel will oversee camera and film imaging lines and customer service for Broadcast Solutions; Jeff Rosica will be vice president, strategic marketing and technology; Patrick Montliaud will be vice president, strategic marketing/sales; and Russ Johnson will be vice president of sales for the U.S. Canada, Mexico and the Caribbean.

The research-and-development side of the new company is where much of the promise of the marriage or potential conflicts will become reality. Thorsteinson, who has made his reputation on his commitment to R&D, says the new R&D team will be split between Europe and the U.S. He says working from two continents does have its advantages.

"There's always a feature set that our

guys didn't quite get for the production switchers, or we did big routers when Europe was going to compact routers," he says. "Having a design presence in a geography and having people visit customers there is a tremendous advantage."

Designing products for a worldwide market that may have different approaches to user interfaces will be a challenge. But Valentin says the underlying technical architecture of the products will be the same, while the panels for products like switchers will be different for U.S. and European customers.

"We'll take technologies that we'll try to get as standard as possible in order to drive the cost down and, at the same time, address the customers' specific needs," he says.

Grass Valley is much less vulnerable to economic uncertainty as part of a company with 73,000 employees. "I had customers say to me: 'I was kind of worried last year when I bought that \$3 million system from you. You were a small private company that might have difficulty because you don't have resources,'" says Valentin.

As of NAB 2002, that equation changes. ■



Avid's DS HD v6.0 nonlinear system was introduced this week.

Media nets of the world, unite

New Avid products are designed to expand connectivity

By Ken Kerschbaumer

Avid Technology continues to build on its Unity storage and network system, unveiling MediaNet 3.0 and two new versions of LANshare at the NAB show in Las Vegas. The new products are part of the company's continuing efforts to ease workflow and improve connectivity to shared storage.

"We can now scale up to 200 simultaneous DV25 streams and browse high-quality, high-resolution video anywhere, not just at a dedicated editing system, but with a Web browser over the Ethernet," says Dave Schleifer, director of Avid Technology broadcast.

The newest version of MediaNet 3.0 has a new 2 Gb architecture that the company says increases total system bandwidth by more than 40% and decreases the price of a typical configuration by roughly 15% (starting price is \$55,000). It also has a new Auto Recover feature to overcome failed drives and even continue to work through drive failures.

The two new versions of Avid Unity LANshare are v2.0 and v3.0. The 2.0 version has 640 Gb per 2RU system and sup-

port of up to 10 single-stream clients or 6 dual-stream clients for a price starting at \$22,500. Version 3.0 has 1.92 TB (terabyte) per system expandable to 2.9 TB and support of Fibre Channel clients for \$40,000 and up.

Related to Unity is the launch of Avid's Productivity Tools family. One of the tools is the Avid Xdeck, a direct-ingest system that can receive a single feed directly into the Avid Unity for News system so that multiple NewsCutter editing system users can begin editing the feed. Cost is approximately \$18,000.

"This is a linearly scaleable solution. There are no bumps that make us suddenly build up the price," says Schleifer. "It's simple: One [feed] per channel. Build it up as you need."

It also supports multiple formats, according to Schleifer, including DVCAM and DVCPRO25, DVCPRO50, IMX MPEG and JPEG.

"It also has multiple control options so that if you need to walk right up to it and hit the record button, you can do that," he says.

Other new members of the tool family include one for browser-based media asset

management (\$20,000), a transfer system (\$14,175), an encoder for the Web (\$12,000), a digital review system for LAN or Internet (\$29,995), a dedicated digitizing and output workstation (\$25,000) and a near-line archiving system (price to be determined).

Avid's DS editing family also has a couple of changes, including a new HD version and a Media Composer-style interface found on Version 6.0.

The interface brings track patching, bottom-up hierarchy and track solos and mutes to DS. The system also supports the Advanced Authoring Format (AAF), meaning that bins, clips and sequences can be loaded from Avid Media Composer Symphony and Avid Xpress systems with automatic conform of effects and keyframe settings. Other new features include expanded real-time DVE capability, support for 720p/60 formats and real-time moving matte support. The entry-level HD system, with 40 minutes of uncompressed HD capability, starts at \$190,000, while the standard-definition system starts at \$115,000. There is a show-floor special for the HD version for \$85,000 with one hour of storage. Upgrades start at \$5,000. ■

CLEAR CHANNEL, SINCLAIR TAP TRIVENI

Triveni Digital signed up two major station groups, Clear Channel and Sinclair, for deployment of various PSIP for the group's respective stations. Sinclair will deploy the GuideBuilder PSIP generation product, as well as the StreamScope ATSC transport monitor and analyzer, at its stations broadcasting in digital. Clear Channel's deal calls for seven GuideBuilder PSIP systems and seven StreamScope analyzers to be deployed. Five of the GuideBuilders will be specially built to provide dual playout for Clear Channel duopolies, and one with triple playout for Clear Channel's triopoly in Memphis.

APPLE BRINGS FIREWIRE TO DVCPRO

Panasonic and Apple are working on adding FireWire to Panasonic DVCPR050 and DVCPRO HD tape decks, a move that will make the still-to-be-released decks the industry's first to support full ITU-601 digital 4:2:2 quality video at 50 Mbps and HD video at 100 Mbps over FireWire. In another Apple/Panasonic deal a future iteration of Apple's Final Cut Pro will support Panasonic's AG-DVX100 24p mini-DV camcorder.

NVISION RE-ROUTED TO MIRANDA

Miranda Technologies has acquired routing manufacturer NVision from ADC Telecommunications in a move to expand its video and audio routing product offerings. The purchase was for all of the company's assets and will result in a new Miranda division based at NVision's Grass Valley, Calif., home

CHYRON AXIS ROUTER ADDS HD

Chyron's Axis HD router was launched at NAB. The one-rack-unit, 16x16 router can handle HD, SD and DVB-ASI streams and includes a control system. Options make it capable of switching video and audio in both digital and analog formats.



Even before Sony's booth opened, it had struck a number of deals, including with CNN and NBC.

Sony, NBC strike deal

NBC is exclusive vendor for range of products and systems integration through 2009

By Ken Kerschbaumer

Sony's NAB press conference began with some taped HDTV yucks from comedian Jay Leno, but the announcement of a deal with NBC could keep Sony laughing all the way to the bank.

The pact calls for Sony to be NBC's exclusive vendor for switchers, cameras, displays, data recorders and systems integration through 2009. The agreement includes NBC's 30 Rock facility, cable operations and O&Os.

"This agreement represents the fruition of a relationship that began in earnest during the 2000 Olympics in Sydney and has grown steadily, and considerably, since then," said Edward Grebow, deputy president of Sony Electronics and president, Business Systems and Solutions.

The NBC deal was only one of a number of contracts the company has recently signed. The other high-profile deal was with CNN, calling for Sony to provide nine Sony HDC-950 HDTV studio cameras for CNN's new studio in New York City's Time Life building. Using a complement of Fujinon HDTV lenses, the cameras will be used to improve the standard-definition look of Paula Zahn's *American*

Morning program as well as *NewsNight with Aaron Brown*. The cameras don't mean HDTV is around the corner for CNN, but it definitely is somewhere down the road, with Gordon Castle, CNN Technology senior vice president, noting the cameras will assist the network's move down an HD migration path.

KCTS-TV Seattle purchased a new Sony HDC-950 camera system along with a Sony HDC-900. An HDCAM 24P package including the HDW-F900 camcorder was also part of the station's deal.

Other sales included 12 digital studio cameras to Home Shopping Network; a \$5 million integration deal with Wisconsin Eye, a new 24-hour noncommercial channel devoted to the Wisconsin state government; and HD gear for a new NHK truck that Sony dubbed the "Ichiro Suzuki truck" because it helps send HD coverage of the Seattle Mariners' star back to his fans in Japan.

Steve Jacobs, Sony Electronics Broadcast and Professional Systems Division senior vice president, outlined the company's new products. One highlight was the eVTR plug-in card, which enables Sony MPEG and IMX VTRs to connect via Gigabit Ethernet.

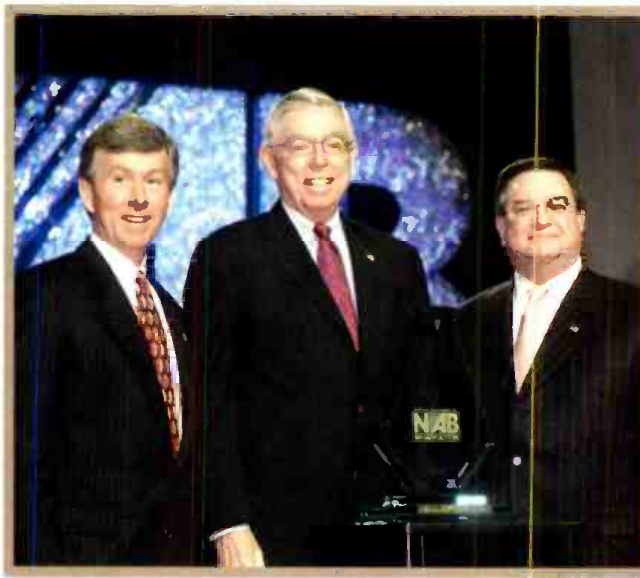
"So, using an eVTR, a PC in New York can command a tape machine in Los Angeles to send material over an IP network to a server in Atlanta," he said. ■

People F A C E T I M E



Quiet respect

Allison Keyes, a reporter for New York's all-news WCBS(AM), was one of the station's reporters on the scene of the World Trade Center terrorist attacks, and was just a block away when the north tower collapsed. It shook her, obviously, though she said she had the sense to "keep tape rolling" to record the event. At television outlets—led by ABC a couple days after the attacks—rules developed limiting the subsequent use of the awful video. Less known, Keyes told an RTNDA panel, is that there are now specific rules at the station that limit the use of audio that recorded the sounds of screaming New Yorkers fleeing the scene.



Mr. Chairman

NAB honored former FCC Chairman and media law icon Dick Wiley with its 2002 Distinguished Service Award at the convention's opening session. Wiley said of his time as FCC Chairman that his objective was "less regulation for the broadcasters who fulfilled their public trust and more enforcement for those relatively few who abused it." Saying the digital future is "clouded by considerable uncertainty," he still saw a bright future ahead, and "in any case, there is no turning back." Shown (l-r) Susquehanna Radio's David Kennedy, NAB joint Board Chairman; Wiley; NAB President Eddie Fritts.

'A LITTLE WAR'

Conrad Burns, former broadcaster and ranking Republican on the Senate Communications Subcommittee, called on Minority Leader Trent Lott to end the political fracas over the vacant FCC seat.

"We've got a little war going on over there and we've got to



Congressman Conrad Burns

take care of that this week," the Montana Republican said during the NAB 2002 congressional breakfast Monday. Burns quickly laughed off such a quick turnaround, but made it clear a fight over filling the empty Democratic seat could stall key public policy decisions over spectrum management, media ownership and digital TV.

BROADCASTING HALL OF FAME



Ladies and Gents...

Led by creator and executive producer George Schlatter, the cast of *Laugh-In* joked, mugged, and reminisced its way into the NAB's Hall of Fame Monday at a luncheon in Las Vegas. Schlatter's reaction: "We're so glad to be here. What the hell took so long." So long was the almost 35 years since the show debuted in 1967. It went on to become a top-rated show and a seminal marriage of techniques inherited from vaudeville and a social conscience it would bequeath to shows like *Saturday Night Live*. One piece of trivia: Lily Tomlin, in her Ernestine the Operator guise, dialed the phone with her middle finger in a gesture Schlatter says censors never picked up on. Cast members shown (l-r): Gary Owens, Ruth Buzzi, Schlatter, Lily Tomlin, Jo Ann Worley, Alan Sues and Henry Gibson.

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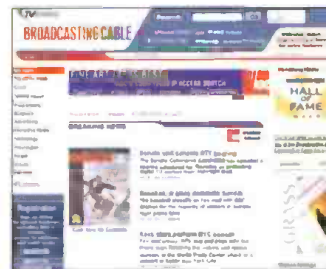
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