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APRIL 25, 2001

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NAB MIDWEEK

ADVICE TO STATIONS: LAY LOW

At TVB confab, analyst Tom Wolzien tells stations the 2001 economy won't improve much at all

» PAGE 10

NBC'S 2002 OLYMPIC DILEMMA

West Coast affils want tape from Salt Lake games; NBC wants to go live. The solution? Let Bob Wright decide

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B&C LAUDS TECH GURUS

At NAB ceremony, B&C recognizes contributions of Fox, Ira Goldstone, Mark Sanders, Dick Green

» INSERT and PAGE 34

COOLEST DIGITAL DIGS

A look inside some of the nation's newest, high-tech television stations

» PAGE 11



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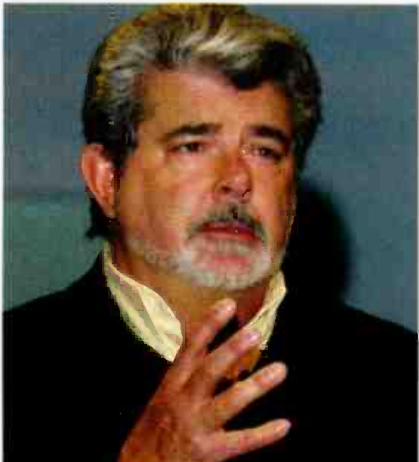


NAB President Eddie Fritts says he's confident the association can hold it together.

CUTTING EDGE Set-tops, software, SMPTE standards and more in a special NAB edition. » 27

I WANT MY MSTV The Association of Maximum Service Television is down to the short list of successors to retiring President Margita White. » 30

GIGO Not all of the 8-VSB digital transmission system's woes are on the receiver side. That was the message to station engineers from panelists at a session on the care and feeding of the digital transport stream. » 30



George Lucas tells a Sony crowd: I'll never shoot a film with film again.

FAMILY TROUBLES The network/affiliate schism was on the table in Vegas. » 9

STORMY WEATHER Sanford Bernstein's Tom Wolzien tells broadcasters not to look for the Fed's interest rate hike to help them in the ad department. He doesn't see much hope for an end-of-the-year rebound either. » 10

SONY SPREADS OUT Citing a lower-than-expected digital roll-out and Internet uncertainties, the technology giant is expanding its business, including teaming with Accenture on a new digital conversion consulting firm. » 28



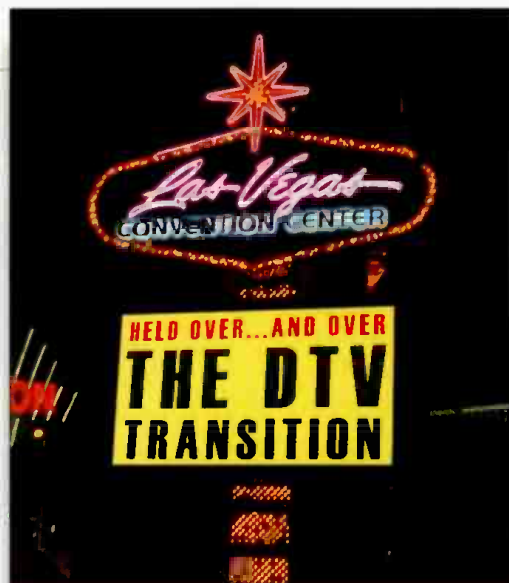
Sanford Bernstein's Tom Wolzien has some discouraging words about the economy.

PANASONIC PICKS Fox and ABC are sold on the flexible frame rates of the company's latest camera. » 32

AVID ON THE MOVE Avid has put its editing system in a laptop designed to let news people in the field edit on the fly. » 32

RING WRANGLE AT NBC NBC executives are split on whether or not to delay its Olympic feed to give West Coast affiliates some prime time real estate. » 33

FOLLOW THE LEADERS Broadcasting & Cable hosted its fourth Annual Service to Technology awards ceremony, honoring four of the industry's leading lights. » 34



COVER STORY

THE LONG ROAD TO DTV

Broadcasters have more than 1,100 stations to get on the air by a year from now. That road is paved with questions. » 6

SPECIAL REPORT

COOL DIGITAL FACILITIES

In this annual report, B&C looks at how a variety of stations and production facilities are meeting the challenge of digital conversion. » 11

NAB ATTENDANCE DOWN

NAB registration through Monday was 112,766, compared to 115,293 in 2000. Attendance was down from the previous year for the first time since at least 1986, when it was 39,000. NAB attributed the drop to the economy. The new figure included registrations via the Internet, so actual attendance could turn out to be lower, said NAB. The Association won't know for a few weeks how many people actually picked up their badges.

NAB PHOTOGRAPHY

By Rick Rowell / Mathew Photo

People F A C E T I M E

She made Radio One

What a nice belated birthday gift. Catherine Hughes, founder and chairperson of Radio One, turned a certain age on April 22, and a day later the NAB feted her with its Distinguished Service Award. She deserves it. Hughes started in 1973 at WHUR-FM, the Howard University station in Washington,



and before long turned it into the capital's number 3 station. Today, Hughes' Radio One is the largest black-owned station group in the nation, with 62 stations in 22 cities, and 18 million listeners nationwide, every day. She recalled that when she was trying to buy her first station, "there was only one problem. I needed \$1.5 million to close the deal, and I was only \$1.5 million short." Significantly, she noted, it was a loan officer at Chemical Bank—a Puerto Rican woman—who gave her the break. Hughes called on the audience to make room for more women, and more minorities, in broadcasting. And in the end, she thanked a higher power: "With a professed faith in God, you can be carried on golden wings."



Ted's loony tune

Ted Koppel wondered why the NAB chose this year to induct him into its Hall of Fame. The anchor of ABC's *Nightline* had a theory: The other networks aren't at the NAB anymore. "NBC has dumped out, and CBS has dumped out and Fox has dumped out," Koppel joked. "So basically, you were kind of down to [Sam] Donaldson and me anyway." But Donaldson doesn't sing (or at least we haven't heard it). Koppel actually did, singing a parody version of "My Heart Belongs to Daddy" in which Koppel thanked the Ayatollah Khomeini for helping launch the show that eventually turned into *Nightline*. It went like this:

"How much he meant/That bearded gent/Who caused so much anger and rancor/No truce he said/Until my friend Ted /Is a full-fledged late night anchor"



The great White way

The NAB gave Margita White its Spirit of Broadcasting Award this week (and gave another to American Women in Radio and Television) and she was long applauded by attendees. A tireless Washington administrator, among other posts in her successful career, White's been the head of the Association for Maximum Service Television and an FCC commissioner.

White came to visit Washington as a college student and never left, but early on, she learned failure. "Six years and a master's degree in political science later," she recalled, "I had worked for seven elected officials who managed to lose a total of eight elections."



Why more TV is a lot better

Garth Ancier, now the programming chief of Turner Networks, explained on a panel to ABC's Sam Donaldson that the real revolution in programming is that "now there is no scarcity." Where once there were just three networks and fewer stations altogether, now there is a surplus of places to put shows, he said. That means "the only thing that prevents you from putting on a program is economics."

He remembers easier times, with less competition: "When I was at NBC when I was 22, and that was a long time ago, we'd come in and count up the combined shares of the three networks. It would be, like a 97; today, they're lucky if it's a 40."



“There’s nothing better..”

“DVCPRO50 clearly builds on DVCPRO25, which has been an excellent workhorse format for us. We knew how reliable DVCPRO50 would be. It’s cost-effective and the quality is excellent—there’s nothing better for our needs.”

- Dale Kelly, senior vice president, Pappas Telecasting



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format for acquisition through production. “Everything we’re currently building is 4:2:2 60I-based, so DVCPRO50 fits perfectly with our new network requirements,” said Pappas Sr.V.P. Dale Kelly. DVCPRO50 is the world’s first 4:3/16:9 production format to deliver a complete I-frame, 50Mbps, 4:2:2 studio quality production chain from field acquisition through editing to program transmission. Join forward-looking station groups like Pappas in selecting the interoperability and quality of DVCPRO50. To learn more, call 1-800-528-8601 or visit our web site at www.panasonic.com/broadcast.

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Trying times for DTV

8-VSB is the what, but the when is on a digital clock that's still hard to read

By Michael Grotticelli, Ken Kerschbaumer and Bill McConnell

Just what is it going to take to get all the commercial TV stations on air in digital by the May 2002 FCC deadline? The answer may be an "act of God."

After years of confusion, the question seems to have taken on new urgency at this year's NAB.

But it's still confusing, especially as the clock keeps ticking. Deadlines tend to get folks doing their homework.

CBS' Joe Flaherty, wearing his international hat as a representative of the North American Broadcasters Association and chairman of the World Broadcasting Union's technical committee, made it clear during a presentation on Sunday morning that the task is beyond daunting.

Since meeting the DTV build-out deadline 'would require the conversion of 15 stations every four business days, delays are expected.'

—CBS' Joe Flaherty

"Of the 1,288 commercial television stations, 1,101 are yet to complete their DTV conversion by the FCC-mandated date of May 1, 2002," he says. "Since this would require the conversion of 15 stations every four business days, conversion delays are expected."

No one denies that there will be delays. And while FCC Chairman Michael Powell recognizes that small-market stations will have trouble meeting the 2002 build-out deadline, he said at the NAB this week that he doesn't want to take any action that would relieve the pressure on broadcasters today.

"I won't pronounce now that we will waive the deadline," he told the NAB Tuesday morning.

Stations already have the right to request waivers on a case-by-case basis. And at the moment, Powell recognizes the FCC may have to brace for a mountain of such requests. But if the FCC issues a blanket waiver, as some have sug-

gested, Powell fears stations will have less incentive to push forward with the expensive build-out and development of digital programming.

"You have to worry because it's an expensive transition everyone has committed to," Powell said. "Some people do have to drive in the form of leadership. I think broadcasters will nobly stay in the lead."

Small-market stations are not interested in falling on their sword, even if they get a great eulogy from Powell. Van Vanelli, station manager at WHIZ-TV Zanesville, Ohio, said the DTV build-out, coupled with the small-market stations' tenuous relationship with the networks, have combined to put his and similar outlets in a precarious position.

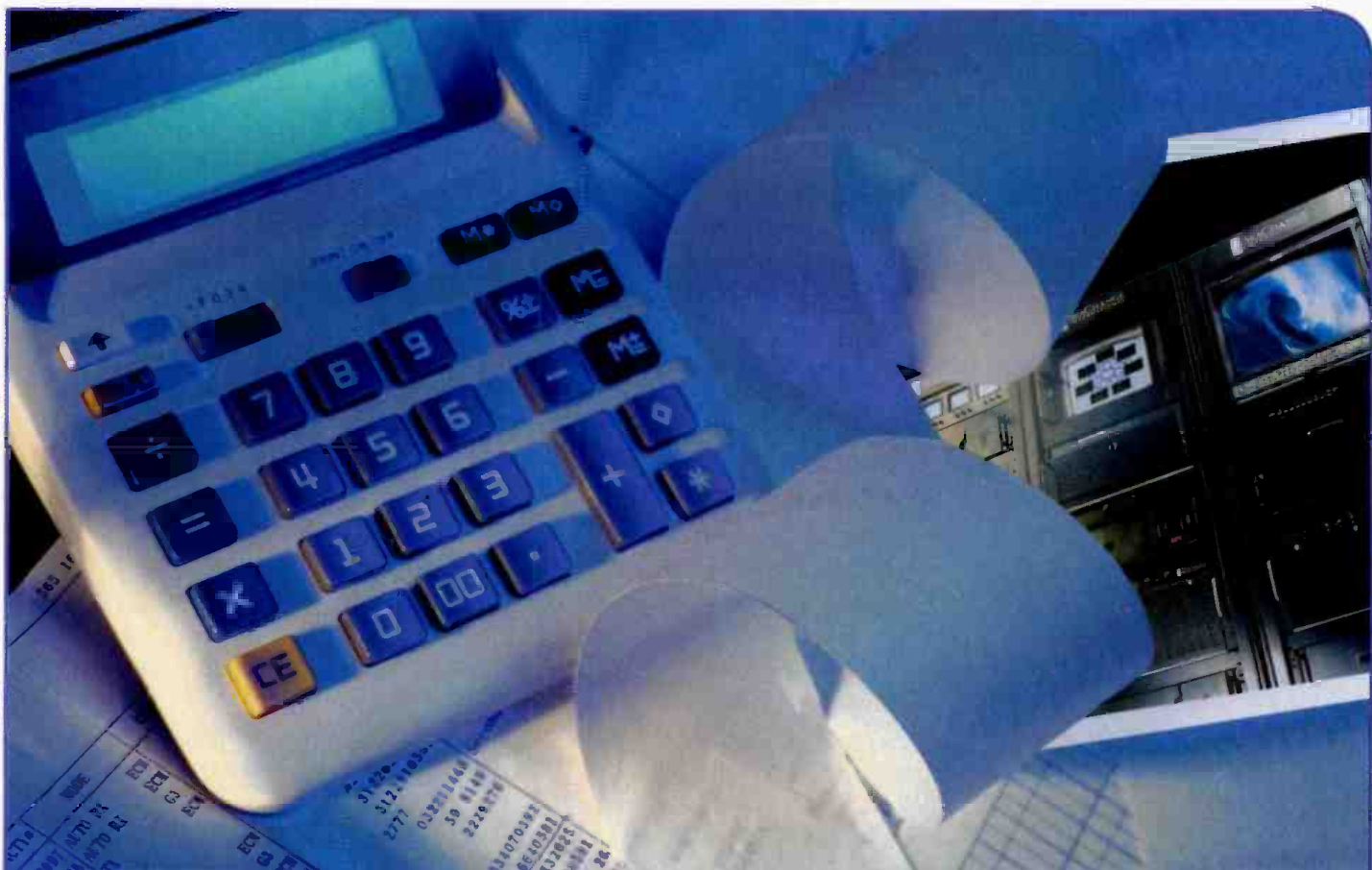
With his NBC contract up for negotiation this year, he wonders whether he will continue to obtain the top-tier programming and ad revenue necessary to pay for digital facilities. So building-out his digital facility has to be balanced against the possibility that NBC will shut off the compensation spigot, or worse yet, yank its affiliation agreement.

"Why should I spend \$3 million on a digital stick if I'm only going to reach 5% of the DMA?" Vanelli asks.

Nonetheless, stations are spending. Virtually every transmitter manufacturer reports that its factories are busy and some suggested that if a station doesn't order their transmitters by June, the order would not be filled in time to be on-air by May 2002.

"We've just completed our best quarter [in March], in terms of transmitter sales, ever," emphasizes Bruce Allan, president and general manager of Harris' Broadcast Communications division. "We're seeing a substantial increase in our business, so stations are making the effort to comply with the FCC. Some stations are choosing to start out operating at low power while others are going full power right from the start."

One reason for the jump in transmitter orders may be that concerns over modulation schemes have abated in recent months, making this the first NAB at which 8-VSB transmitters could be purchased without



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IN BRIEF

NBC SPENDS \$25M ON GRASS VALLEY

NBC will purchase up to \$25 million worth of digital gear from Grass Valley Group to support the network's centralcasting, news production, asset management, and (eventually) high-definition playback. The deal, to be completed over three years, includes Profile video servers, Vibrint non-linear edit systems and routing and modular products that will be installed at central hubs in New York, Los Angeles and Miami and feed NBC's 13 O&O stations within its TV Stations Division.

NASA RALLIES TROOPS

Some 300-400 station executives attended an ad hoc briefing at the NAB last week on the network grievance filing by the Network-Affiliated Stations Alliance. The executives apparently liked what they heard from the three network affiliate board chairmen, Andy Fisher of Cox and NASA Chairman Alan Frank of Post Newsweek. Standing outside the closed session, reporters heard bursts of applause and laughter. Frank said more than a dozen people stood up to express support for the filing, while no one who spoke opposed it.

fear of adjusting them for COFDM.

Even Sony Broadcast President Ed Grebow made note of the new atmosphere during Sony's press conference on Sunday.

"I will try to refrain from my annual prediction that mass acceptance of DTV broadcasting is just two years off," Grebow said, with dry humor. "But we can say that 8-VSB is now secure as the transmission standard. We can say that datacasting, though real, is not the panacea that some hoped it would become. And we can see that the consumer market for DTV receivers is slowly gaining ground."

Helping in that effort, jointly, will be the Consumer Electronics Association (CEA) and the NAB. The two organizations will hold a series of meetings in June (prior to the CEA's CEO Summit, in Lake Tahoe, Nev.) to hash out the details of a joint promotional program to roll out in the fall in four unnamed markets. Print and TV advertising, as well as local retail store promotions, will be used to increase awareness of the availability of digital TV sets and of the local station's on-air digital broadcasts.

The cable industry was notably absent from the joint effort, which NAB President Eddie Fritts said he'd like to see change. "We hope that cable will join with us downstream and begin to make sure that the digital television revolution goes to over-the-air broadcasting in addition to what they are doing with digital cable."

DTV was also heavily on the minds of lawmakers. Broadcasters have made it known that they believe requiring digital tuners to be phased in to all TV sets would help speed the transition. And while lawmakers have resisted requiring

digital tuners, an increasing number accept the broadcasting argument that consumers will stay away from DTV as long as 25 to 30 million analog-only sets are sold each year.

"This is not a particularly helpful statistic," said Rep. Rick Boucher, D-Va., at an NAB breakfast Monday. Boucher favors legislation mandating DTV tuners.

Even if the pace of DTV purchases picks up, the transition faces a Catch-22. For every digital set in a family's den, there will be one or more analog sets in the bedroom and kitchen. That means consumers will be irritated when analog signals disappear.

That cold reality worries Rep. Fred Upton, chair of the House Telecommunications Subcommittee. "As screens go black and blue, constituents will go red with anger," said aide Will Norwind.

While the Michigan Republican hasn't made up his mind on mandating digital tuners, he "hasn't foreclosed that option," Norwind said.

But Republicans generally are against a tuner requirement, seeing such a move as a cost burden on consumers who aren't ready to go digital.

"He doesn't feel that's the right approach now," said Jessica Wallace, aide to House Commerce Committee Chairman Billy Tauzin, who thinks the current 85% DTV household penetration test is wildly open-ended and imposes no sense of urgency to convert.

"The 85% test gives a lot of wiggle room and a hard deadline [for returning analog channels] might incentivize the parties to come together," Wallace said. Broadcasters must bear most of the DTV burden, he added, first by producing compelling DTV programming and then, perhaps, by meeting a firm deadline for returning analog channels. ■

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The trouble within

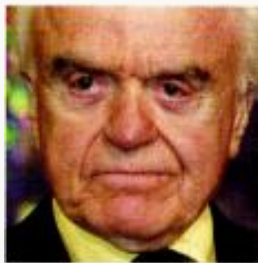
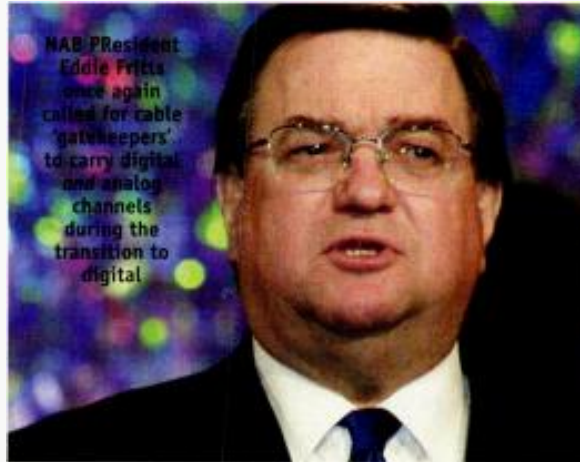
By P.J. Bednarski

The schism between the networks and station groups was much in evidence at the opening session of the NAB convention in Las Vegas Monday (April 23), as NAB President Eddie Fritts complained that rather than fighting other causes, "all of a sudden we are challenging ourselves from within."

Also at the session, MPAA President Jack Valenti gave an eloquent defense of the First Amendment, admitting that sometimes defending free speech is tough to do when "you become so irate at what is invading the culture of the community."

The NAB also gave its distinguished service award to Catherine Hughes, founder and chairperson of Radio One Inc., the nation's largest black-owned radio chain, and its Spirit of Broadcasting Award to the American Women in Radio and Television, celebrating its 50th anniversary this year (see "Face Time," page 4).

But at a trade show that may be more interesting for who's not here rather than who is, Fritts' comments were the most



Jack Valenti defended the First Amendment, while saying it was tough given "what is invading the culture of the community."

newsworthy, if also the most restrained.

Since CBS joined Fox and NBC as the biggest and most notorious ex-members of the trade organization, Fritts has been reticent on the crack between the networks, which favor lifting the 35% ownership cap, and other station groups that want it kept there. Fritts made it plain he wished the networks were still part of the group. He refuted the contention the NAB "umbrella" can no longer act as a shield for networks and station groups, and their diverging needs. Instead, he said, "Frankly, I believe it is our strength, a strength that has given us many victories over the years."

Earlier, referring to the networks and station groups, Fritts told attendees, "Never in

our industry's history have tensions between the two been so high." But he also thanked ABC for hanging with the NAB. "We value your standing side by side with us, in spite of your disagreement with us on our understanding of the issue of the 35% ownership cap," Fritts said.

Otherwise, Fritts said the NAB expects to "benefit from a lighter regulatory touch" with an FCC led by Michael Powell but said "some issues will be more difficult."

Foremost among them, he said, is the tough conversion of broadcasting from analog to digital. "The very future of broadcasting rests on successful completion of this transition," Fritts said. He suggested that government intervention is necessary, but stressed Washington's assistance should be "minimal."

He once again called for cable "gatekeepers" to carry digital channels as well as analog signals during the transition; called on TV manufacturers to put DTV tuners in every new set; and for the industry to solve the DTV/cable interoperability woes.

In his speech, Valenti said "I do not quarrel with the passionate sincerity of some members of Congress and others who are vexed over what they judge to be a breakdown in the civic compact which governs the daily conduct of citizens." But he said the onslaught of media in what he called the "Millennium of Communications" is "bound to produce both the tawdry and the superior" but he urged that rather than restrict free speech through law, schools, churches and parents must instill values that protect themselves from objectionable material. ■

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Ad picture still cloudy

Wolzien sees no help from rate cuts; says big companies were 'disingenuous' to say there were no problems

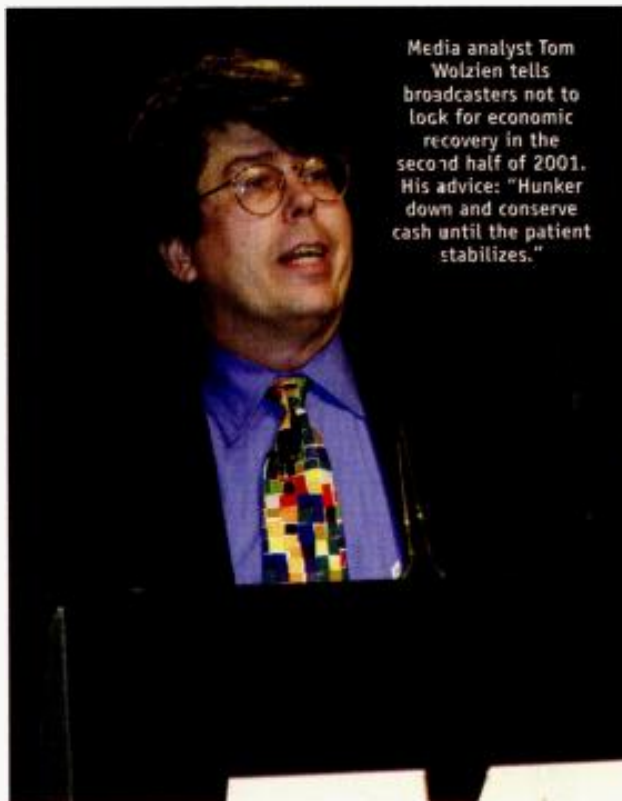
By Steve McClellan

For those thinking that, just maybe, recent interest-rate cuts by the Fed will help kick-start the stalled advertising market: Forget about it. A look at past downturns in the economy shows that interest rate cuts don't affect ad expenditures one way or the other, says Tom Wolzien, media analyst with Sanford Bernstein.

And you can pretty much forget about an economic recovery in the second half of 2001, as well, Wolzien told an audience of Television Bureau of Advertising Conference (TVB) attendees in Las Vegas on Monday (April 23). The chances of that happening are looking less likely with each passing day, he says.

The good news is that there will be a recovery, Wolzien said, although he also said that nobody knows when it will occur. His best educated guess is that, overall, advertising might see a slight gain next year of perhaps 2%. That will be after a flat 2001, with a decline in national broadcast, but maybe a 4% gain for cable. The economy, he believes, will grow at a sluggish 1.5% this year.

The economists may have an opinion on when the turn-around will occur, but it's



When the economic recovery arrives, says Wolzien, it will spark a new wave of consolidation as smaller players try to compete with the 'monsters'

constantly changing and has to be taken with a grain of salt, said Wolzien. In fact, he said, broadcasters knew way before the economists—and starting as early as last August—that there were problems with the economy. That's when advertisers first started cutting ad budgets in an effort to shore up faltering profits. In fact, he said, economists didn't really "find God," that is formally recognize the downturn, until January. And opinions about a recovery have been quickly offered and

just as quickly revised.

And while big media companies like AOL Time Warner and Viacom kept insist-

ing last fall that there were no problems and that advertisers were living up to their upfront contracts, "they were technically correct, but disingenuous," Wolzien asserted. Advertisers were living up to their contracts, but they were exercising options to get out of portions of those spending commitments in huge numbers.

When the economy does rebound, said Wolzien, "it will be heralded by a rebirth of auto advertising." That will happen when the auto industry regains strength and starts posting monthly car-sales increases again. That's what happened in 1991, the last recession year: "The autos regained strength. It's the best indication of a turn in the economy," he said. And when that happens, broadcasters will breathe a sigh of relief, given that between 25% and 40% of any given station's ad revenues are tied to auto ads. Although the category is down an estimated 25%-30% this year, according to one analyst, there seemed to be some good news from car makers attending the TVB sessions. They said auto sales are not down as sharply as everyone expected.

Wolzien's advice to stations until the next upturn: "hunker down and conserve cash until the patient stabilizes."

When the recovery does arrive, Wolzien predicts it will spark a new round of industry consolidation. He bases that prediction essentially on the market capitalization for both AOL Time Warner and Viacom, which are exponentially bigger than the market caps for all the other players in the industry. In fact, AOL Time Warner's market cap is bigger than that of Viacom, Disney and News Corp. combined. AOL and Viacom, he said, "are the two monsters here that are set up versus the rest of the broadcast industry."

Logic dictates that smaller players are going to have to combine to compete with the monsters. In particular, he sees newspapers and broadcasters combining to get more leverage both in the ad market and the program-acquisition market. ■



The continuing move to digital

New technologies enable greater efficiencies while expanding capabilities

By Ken Kerschbaumer

It won't be too many years before the annual Digital Facility Report in the pages of the midweek issue of BROADCASTING & CABLE becomes less of a showcase of cutting-edge technology and more of a showcase of how broadcasters and others are building out new facilities to take advantage of digital gear. In fact, as the profiles on the following pages prove, that day may have already arrived.

A consistent theme from story to story is that digital technology is not only allowing

organizations to rebuild control rooms, edit rooms or studios. It is also allowing them to do more with less when it comes to getting a return on investment. The digital television stations that are mentioned on the following pages exemplify the kind of flexibility that tomorrow's uncertain business model will most likely demand.

Take, for example, the facility put up by the Ackerley Group. By using the facility to serve more than one station, the group is able to save on labor, simplify operations and better serve its groupwide needs, instead of focusing on solving the same problems at each station individually.

And Crawford Communications managed to move a complete facility without interrupting service to its customers.

New Ways to Digital

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Crawford took the difficulty of moving out of a condemned building and turned it into an opportunity, creating a new facility with a new infrastructure that will allow Crawford to grow as needed in the future.

The interesting aspect of putting this report together is trying to find facilities that are harbingers of the future for broadcasters across the country. We hope that the ideas and concepts on the following pages will provide your station with a new way to approach future needs in an uncertain environment. ■

ACKERLEY

Facility Owner: Ackerley Media Group

Architect: Not available

Systems Integrator: DST

Size: 30,000 sq. ft.

Budget: \$1,500,000

Completion Date: November 29, 2000



Focusing operations

New facility helps serve content to three stations on the West Coast

By Alan Waldman

The 18-station Ackerley Media Group is following its previous digital multicasting success at WIXT Syracuse, N.Y., by operating five West Coast stations out of the 30,000-square-foot Salinas, Calif., facility from which it broadcasts KCBA Salinas and KION Monterey, Calif. The strategy, which Ackerley calls "digital centralcasting," will also control KFTY Santa Rosa, Calif., KVIQ Eureka, Calif., and KMTR Eugene, Ore.

The Salinas facility was completed a year ago, and Ackerley has been transferring stations ever since, replacing old Betacam equipment with digital equipment, including a large SeaChange server, a Philips Digital router, Sundance Digital automation and Tiltrac Robotic tape storage.

"Rather than replacing each station's technical infrastructure to accommodate digital, we are able to realize significant economies by putting that technical infrastructure in one location and feeding multiple stations from it," says Kelly Alford, Ackerley Media Group's engineering vice president. "We're able to combine master-control operations, traffic departments (billing centrally for all stations in the group), accounting, program-

ming, and, to a certain extent, marketing and promotions all in the one facility. This allows us to optimize staffing efficiencies, which at our optimum level of staffing next year should be 40% to 50% less than our combined staff prior to the endeavor."

The SeaChange server holds more than 300 hours of short-form programming, including commercials, promos and some syndicated programming. Long-form programming, (movies and bulk syndication feeds) is saved on DVCPRO tape in the Tiltrac robotic tape storage system.

"Because we have centralized master control, we have focused on our news departments at the stations, converting them over the past five years to digital Panasonic DVCPRO format," Alford says. "We are acquiring, editing and now playing back completely in digital for the majority of our news operations, and the others will convert."

The Tiltrac system has 12 tape machines and a robotic arm that feeds the tape into the machines. "The cool thing about this system

is that the bins where the tapes are stored are tilted, with more than one tape in each storage bin," says system integrator DST Vice President, Engineering, Dwight Crumb. "This facility is doing the centralcasting for all five stations in only 18 racks, which is incredibly efficient use of space." Out of the 18 racks there are five seats for operations to control the on-air feed, and the system is designed to be controlled by one to five operators.

"The external signals come into the room via DPS-470 frame synchronizers, which embed the audio with the video; the whole system then works with embedded audio, and, just before transmission, it is de-embedded,"

Crumb explains. "This ensures the audio stays in sync with the video."

There are four load stations where commercials are inserted into the server for storage and logging into the automation system. "If the Tiltrac system fails, two on-air tape-machine playback stations will take over as a type of manual override," notes Bill Mouzakis, DST's director of engineering. ■

The SeaChange server holds more than 300 hours of short-form programming, including commercials, promos and some syndicated programming.

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AT&T

Facility Owner: AT&T Broadband

Architect: AT&T Digital Media Centers/Heart To Heart Communications

Systems Integrator: Heart To Heart Communications, AT&T Digital Media Centers

Size: Studio 1,800 sq. ft.; facility 85,000 sq. ft.

Budget: Under \$300,000

Completion Date: August 2000



Faster than figured

Advanced AT&T Digital Media Center studio completed in 14 days

By Alan Waldman

AT&T Digital Media Centers' Los Angeles facility recently converted its 1,800-square-foot Studio One (where National Enquirer TV produces its daily magazine show *Exposed*) from analog to cutting-edge digital. Bob Daines, of Heart To Heart Communications, Marina del Rey, Calif., was the communications-systems integrator; Larsen Cottrell, of Connect Design, Burbank, Calif., did the construction; and Sony Systems Integration was the original integrator for the facility three years ago.

"In 1998, we built Studio One as an analog studio, as a cost-saving method, because we had existing equipment," recalls Glenn McJennett, director of engineering, AT&T Digital Media Centers. "Knowing we'd go to digital in the future, we made some innovations with the original Sony Systems integration project to allow for an easy, rapid conversion. We had muxes and demuxes already in place to handle distribution within the plant. With those innovations in place, we planned the conversion in about three weeks and executed it in about 14 days."

AT&T Digital replaced an analog switcher and analog video effects with a Grass

Valley 4000 digital video switcher and Grass Valley Gveous digital video effects. "We converted our Sony BVP 90 analog cameras to digital, and we also added two digital Ultimatte 400s for compositing and effects. We also integrated the studio in an all-digital manner to the rest of the facility."

In addition, Studio One contains a Chyron Infinet character generator, a Leitch still store, a Yamaha 3500 mixing console and eight Sony Digital Betacam decks with router connectivity to the rest of the facility and the outside world.

The AT&T Digital Media Center contains three other studios, seven Avid editing rooms (five Macintosh and two Windows NT), a digital online edit suite, an analog online edit suite, a digital Protocols 5.2 online suite (recently upgraded to Rocket Networks connectivity) and network origination for two networks. "Between all the Avids and Protocols, we are connected with a Trans-Soft Fibre network to allow sharing of files, with more than a terrabyte of storage,"

McJennett adds.

"This studio, which has been online in its current configuration since September 2000, can handle any long- or short-term production," says AT&T Digital production engineer Rick Greyerbiehl. "There's room for easy expansion, if a client has upgrade needs. This conversion eliminated

many analog studio problems, such as timing issues and analog level shifts."

AT&T Digital Video Centers are full-service facilities offering studio production, post-production, channel/network origination, and uplink and distribution worldwide 24 hours a day. The AT&T Digital Media Centers in Denver and Hong Kong

were built as digital; New York has gone from analog to digital in some areas.

"As we go forward with the Los Angeles facility," McJennett explains, "our plans include utilizing our relationship with AT&T to enhance client new-media needs with streaming video and interactive TV—bridging the gap between data and video in this era of convergence." ■

This studio, which has been online in its current configuration since September 2000, can handle any long- or short-term production!

—Rick Greyerbiehl,
production engineer, AT&T Digital



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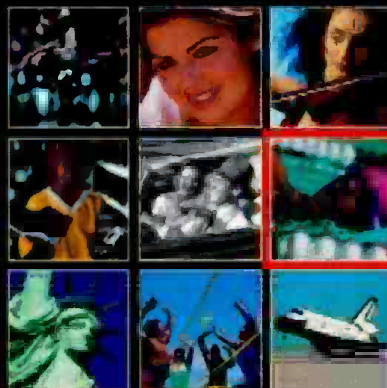
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CRAWFORD

Facility Owner: Crawford Communications

Architect: Alex Munoz & Associates

Systems Integrator: Sony Systems Integration

Size: 132,000 sq. ft.

Budget: Not available

Completion Date: Sept. 30, 2000



Relocating bit by bit

Crawford moves to new facility without disrupting service to clients

By Alan Waldman

Crawford Communications, which provides post-production, audio, and Internet services, satellite services, and cable-TV operations for 24 major networks, had to move from its seven buildings in midtown Atlanta's Armour Industrial Park when the area was condemned by the local Metro Atlanta Rapid Transit Authority. So Crawford utilized a clever "seed-bay" strategy devised by Sony Systems Integration, which allowed it to move 10 miles northeast into an existing Scientific-Atlanta building without interrupting the 24/7 operations of any of its broadcaster clients.

Crawford oversees broadcast operations of such companies as The Discovery Channel, TLC, CMT, The Travel Channel, Fox Latin America Networks and CineCanal Pay TV.

Sony did most of the relocation design, new-system design, physical installation and relocation, and GlobeComm Systems relocated 20 satellite antennas and put up five new ones. Alex Munoz & Associates was the architect, as Beers Specialty Interiors completed the construction, and Layer 3 Communications relocated Crawford's computer systems and Internet-ser-

vices equipment.

Sony's seed-bay solution involved renovating the new building (adding a new electrical system, heating/AC and plumbing); prewiring the new facility with over a million feet of new video and audio cable, wire and fiber optics; and putting in four additional TV-network-control rooms. Sony also installed new all-digital, surround-sound, HD-capable routing systems; three new 5.1 surround-sound audio suites designed by Tom Hidley; and a new post-production suite (a digital high-def/standard-def hybrid, based on the Snell and Wilcox 1012 video switcher and Accom digital disc recorders).

"We came up with a daily plan of moving the satellite networks with zero dead air," explains Sony Systems Integration Senior Project Manager Greg Quandt. "Crawford copied all the program material, and then we played it back from both the new control room and the old one, monitoring outputs to make sure everything was perfect, before we did the switch-over."

With each network installation at the new location, Sony dismantled the bays at the old building, took the equipment to the new facility, installed it and tested it. Then Crawford copied the tapes and ran each network parallel for two days, making sure that everything was perfectly in sync before the network was switched to its final home.

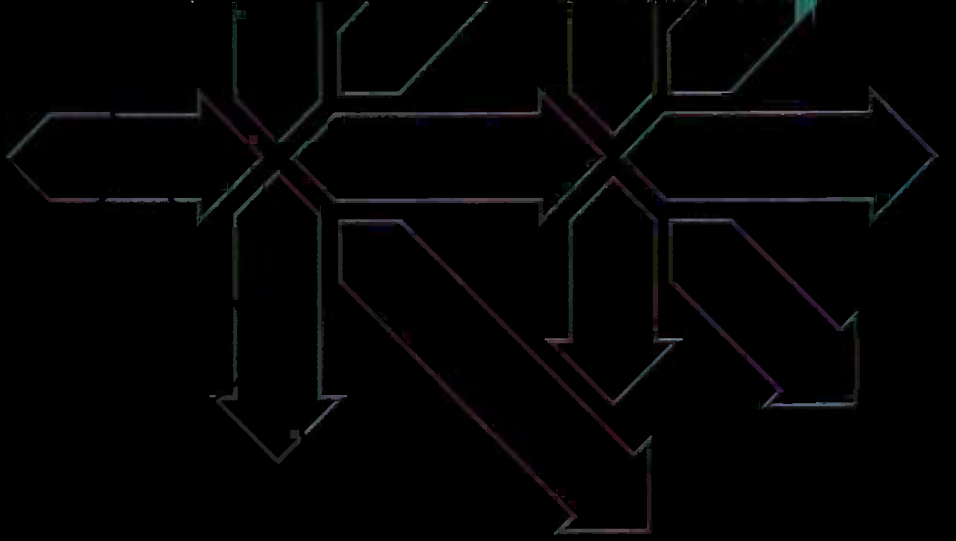
'We are probably the only company in the U.S. that could put a new TV network on the air in 30 to 60 days with virtually no notice.'

—Paul Hansil, president/COO,
Crawford Communications

"The biggest advantage is the brand-new infrastructure," says Crawford President and COO Paul Hansil. "We have a completely new electrical system with uninterruptible power supply, backed up by dual generators, and the entire facility is connected via the NVision high-definition routing

system. And by designing it from the ground up, we were able to build in a lot of expansion space for network-control rooms or whatever."

Crawford also took advantage of new construction techniques, utilizing a moveable-wall system by SMED of Canada that allows it to add, change and move all walls in the tech space." ■



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KHQ-TV

Facility Owner: KHQ Inc. (a subsidiary of Cowles Publishing)

Architect: Rees Associates

Systems Integrator: Beck Associates

Size: 56,000 sq. ft.

Budget: \$15 million

Completion Date: March 5, 2001



Mid market, big ideas

New KHQ-TV building, facility designed to be contemporary and flexible

By Alan Waldman

On March 5, NBC affiliate KHQ-TV began broadcasting from its new 53,000-square-foot state-of-the-art digital facility in a former auto district in downtown Spokane, Wash., that it is helping bring back to life. The \$15 million project includes \$8.6 million for building design and construction and over \$2 million in new digital equipment. The architect was Oklahoma City's Rees Associates, the general contractor was Spokane's Robert B. Goebel, and the systems integrator was Austin, Texas-based Beck and Associates.

KHQ-TV President and General Manager Lon Lee confesses that the decision on what digital standard to broadcast in will be delayed as long as possible toward the May 2002 legal deadline. According to Lee, the station had to move or renovate because the electrical infrastructure of its previous building was incapable of supporting a digital installation. The old building used mostly 15- to 20-year-old equipment, and its small control room and newsroom were originally built for KHQ radio.

"Our goal was to build a new building that would both be contemporary and give us the flexibility to support a world-class

news organization in our size [76th] market for 50 years," Lee explains.

Another goal is to originate up to nine separate TV signals out of master control for KHQ-TV and sister stations KNDO(TV) in Yakima and KNDU(TV) in Richland.

"The new building features a dramatic, two-story, 70-by-50-foot newsroom/backdrop to the news set," explains Rees' project designer Lisa Matthews.

More than 15,000 square feet of 24-inch-raised computer-access flooring allows maximum flexibility in current and future wiring of technical and news operations. Initially, the building has more than 60 miles of installed fiber and wiring.

"KHQ basically has an all-new system from the ground up," declares systems integrator Fred Beck. "The primary audio signal distribution format is digital AES, using co-ax. The primary video-distribution format is serial digital video, but we also have new, smaller analog video and audio routers to handle miscellaneous input and output work."

There are more than 40 Leitch analog-to-digital and digital-to-analog converters with frame synchronizers. The great majority of the routing equipment is from Philips. The Sundance automation package, which has fully mirrored Play to Air, via Leitch video servers, includes automated satellite acquisition and recording, plus automated digital video effects, squeeze-backs and voice-overs.

The primary monitoring in both master control and production control is accomplished by multiple-video-stream multiplexing to 50-inch Panasonic high-definition plasma monitors. Video-multiplexing equipment was supplied by Avitech.

'The primary video distribution format is serial digital video, but we also have new, smaller analog video and audio routers.'

—Fred Beck,
systems integrator, KHQ-TV

News and programming can originate from either of two studios or the newsroom itself. The new equipment includes Philips LDK 200 studio cameras, a Philips Saturn master-control switcher, a DD35 production-control switcher, Accom Dveous video effects and a Wheatstone SP8 audio console. The videotape format throughout the facility is Panasonic DVCPRO. ■

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Dick Green

Mark Sanders

Fox Sports

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INTRODUCTION

The Fourth Annual Technology Leadership Awards

For the past three years Broadcasting & Cable has honored Digital Television Pioneers, industry figures who have advanced digital television through technology and policy. Beginning this year our award—now the Technology Leadership Award—takes a broader approach, honoring three men and an organization that have shown that leadership is as much about championing general excellence in the development and application of TV technology.

First up (and in no particular order) is Fox Sports, which has been

slowly reinventing how TV covers live sports. Its FoxBox, which made its debut during the network's first season of NFL coverage, has become a staple on all sporting events. There was also the famous FoxPuck which actually had sports fans watching hockey just to check out the technology. And other innovations, like catcher cameras and massive microphone deployments to provide more comprehensive audio coverage of events have helped remove the barriers separating TV fans from the game.

Next is Ira Goldstone of Tribune Broadcasting. During his 30-year

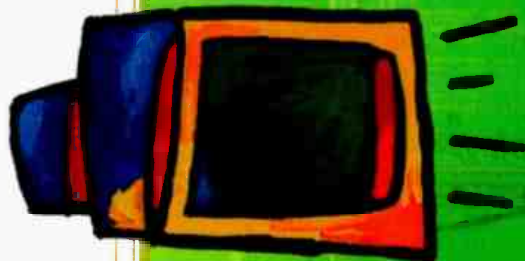
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NCTA salutes

Richard Green

President and CEO, CableLabs

**and the other Technology
Achievement Award Winners**



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career, Goldstone has kept his station group on the technological cutting edge. Along with consistently investigating how to apply new tools he has also made Tribune's rollout of DTV stations a model for others.

Dick Green is now head of Cable Labs, the cable industry's R&D center. But his roots are in broadcasting. During his career, he has been a lead technologist at ABC, CBS and PBS.

Green was an early experimenter with HDTV and he prepped for his role at Cable Labs by acting as chairman of the committee that wrote the CCIR-601 digital standard and serving as executive director for the Advanced Television Systems Committee.

And finally, there is Mark Sanders. During his tenure at Ampex and now as president and CEO of Pinnacle Systems he has created the tools that make it easier for broadcasters to do their job. It was only a few years ago that Pinnacle Systems was a company known primarily for character generators and digital video effects. Today the company's portfolio has grown to include video servers, production switchers and equipment for HDTV production. Sanders has led that portfolio growth and, in the process, led the company to success.

One of the goals of the Technology Leadership Awards is to award recipients from different disciplines within the industry. And this year is no exception. But one common denominator among all of them is a genuine love of technology and a desire to advance the craft. They also look to technology to help improve programming and, in turn, the consumer experience. Making it possible to not only see but hear a stolen base get stolen, enabling broadcasters to take full advantage of the capabilities of digital broadcasting, changing the way soap operas are produced and making it easier for news departments to quickly turn around on-air graphics are just some of the ways this year's recipients have changed technology and the face of broadcasting. ■

Past honorees:

Joe Flaherty, **CBS**

Jim Chiddix, **Time Warner**

James Goodman, **Capitol Broadcasting**

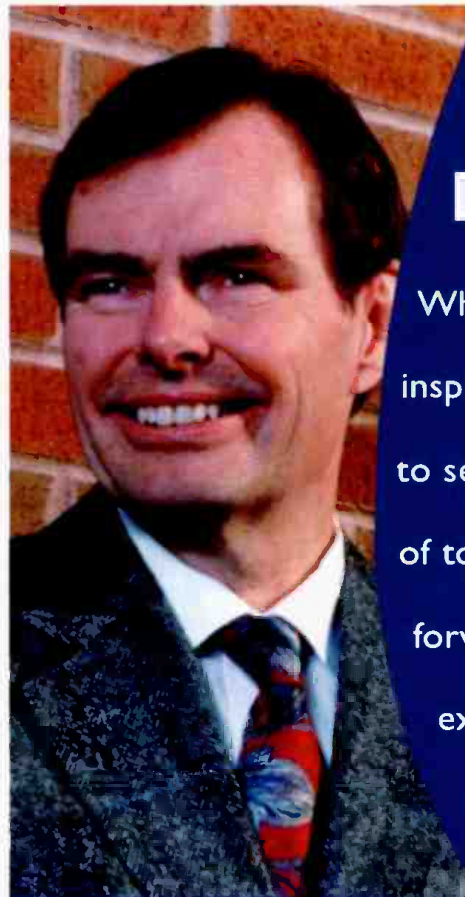
Eddy Hartenstein, **DirecTV**

Charles Steinberg, **Sony**

Rob Glaser, **Real Networks**

Richard Wiley, partner, **Wiley, Rein & Fielding**

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FOX SPORTS



Fox Sports carries tech torch

By Michael Grotticelli

Throughout the 1970s and '80s, the legendary Roone Arledge oversaw the ABC Sports division that was responsible for re-inventing the way Americans watched modern sports programming. Televising everything from stock car racing, to NFL football to horse racing with multiple "up close and personal" camera angles and innovative POV shots that viewers had never seen before, "the thrill of victory and the agony of defeat" was a household staple of sports fans everywhere.

With the advent of the '90s came a new "fourth network," looking for a place in Americans' consciousness. Along with presenting a number of unique sitcoms and "reality" shows, the Fox Network chose live sports production as a way to establish itself. Almost immediately it picked up the technology innovation torch and has run, jumped, skied, passed, pitched and skated with it.

In the early '90s, Fox Sports acquired the rights to National Football League NFC games and hired the highly successful NFL broadcasting team of play-by-play announcer Pat Summerall, and analyst John Madden, along with seasoned producer Bob Stenner and director Sandy Grossman. Together, they quickly established a benchmark of excellence at Fox, bringing with them most of the experienced production crew from CBS (which previously had the NFC contract). The 2000-2001 season marked the group's 20th together.

Led by Fox Sports Chairman David Hill and President Ed Goren, Fox Sports became fully operational in time for its Aug. 12, 1994 premiere—an NFL preseason game between the Denver Broncos and the San Francisco 49ers—live in prime time from Candlestick Park.

Fox was soon pushing the envelope in what could be done technically during a live broadcast. Innovations, such as the FoxBox constant score-and-clock graphic, enhanced audio and interactive graphics attracted attention and were embraced by viewers and critics alike. Based on their popularity, these on-screen elements were also quickly imitated by other local and network broadcasters. The constant score-and-clock is now a mainstay of every sports telecast.

As a complement to the NFL on Fox, Fox has also been a partner with the NFL

in the NFL Europe League since 1995, and has broadcast the World Bowl championship game from 1996 to 2000. In September 1994, just after Fox Sports' regular-season NFL debut, the network expanded its sports-rights roster with the addition of a five-year contract to become the exclusive network home of the National Hockey League. The NHL had not had a long-term network broadcasting arrangement since 1975.

Fox Sports introduced the FoxBox to its NHL broadcasts during the '95 season and improved the game's audio coverage

The constant score-and-clock is now a mainstay of every sports telecast.



Fox Sports' use of complex and colorful graphics has brightened up NASCAR coverage.

Our Warmest Congratulations To

IRA GOLDSTONE

VP, Engineering and Technology of
Tribune Broadcasting Television Station Group

DICK GREEN

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MARK SANDERS

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as well. In an effort to attract the next generation of NHL viewers, Fox also moved cameras closer to the ice, began using robotic cameras at ice level and behind goal posts to cover live action, introduced the animated FoxBots graphics and the controversial FoxTrax "glowing puck" computer system (developed in partnership with a sports technology company called Sportvision). FoxTrax premiered Jan. 20, 1996 during coverage of the NHL All-Star Game from the Fleet Center in Boston.

In November 1995, Fox entered into a five-year agreement with Major League Baseball (MLB) to become the sport's primary broadcast carrier. Fox Sports premiered its four-game "regionalized" regular-season cov-

erage on June 1, 1996, marking the return of the Saturday afternoon Game of the Week.

Fox aired its first MLB All-Star Game on July 8, 1997 (played at Jacobs Field in Cleveland). The telecast marked the debut of the Catcher-Cam mounted on the catcher's headgear. It provided POV shots never seen by baseball viewers before. In addition, during the July 4 edition of Fox "Saturday Baseball," idle San Francisco pitcher Orel Hershiser became the first MLB player to converse with game announcers during a game.

Later in 1999, FOX Sports reached an agreement with NASCAR, giving Fox broadcast and cable television rights for Winston Cup and Busch Series racing over the next eight years. Fox, along with sister cable channel FX, will have broadcast rights for the first half of the season, while NBC and Turner Sports will have broadcast and cable rights for the second half of the season. Fox Sports and NBC Sports will alternate coverage of the Daytona 500.

This agreement has led to the introduction of yet another live-sports-technology first. During its telecast of the Daytona 500, in February of this year, Fox unveiled its FoxTrax system, that helps viewers follow particular cars around the track. Also developed by



Congratulations to
Dick Green

2001 Technology Achievement
Award Winner

Your leadership at Cable Labs
is helping to shape the future
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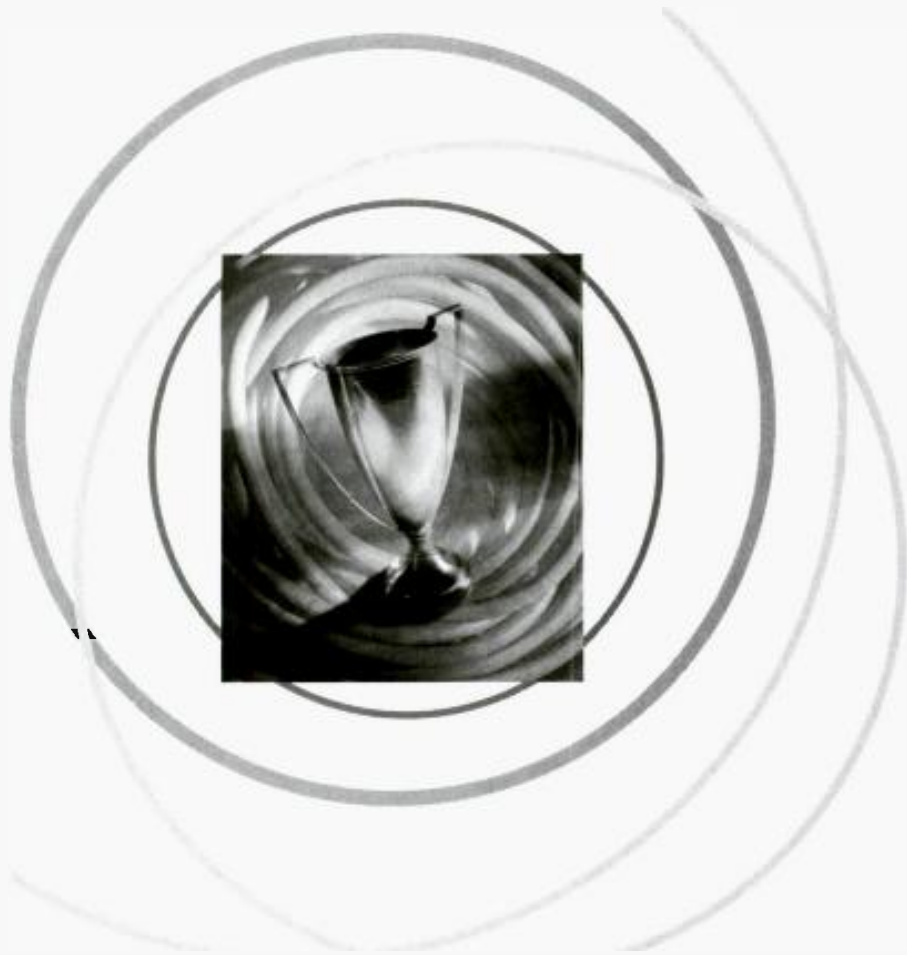
**SUSQUEHANNA
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On-screen features like FoxTrax make it easier viewers to follow the action.

Sportvision, FoxTrax includes live, on-screen graphics created from real-time information transmitted from inside the car.

The list goes on and on. Since Aug. 12, 1994, FOX has also produced standout broadcasts of two Super Bowls, (Super Bowl XXXI in 1997 and Super Bowl XXXIII in January 1999), and a variety of events that include boxing, figure skating, tennis, downhill skiing, championship bull riding, and college football and golf. It's this commitment to the viewing experience that has helped Fox Sports relatively quickly gain national prominence as a live production network that sports fans appreciate. ■



Cox Communications salutes the 2001
Technology Leadership Awards Winners

*A special congratulations to Dick Green, President & CEO of
CableLabs for making cable technology tops.*



IRA GOLDSTONE

Tribune's golden boy

By Ken Kerschbaumer



'Around 1975, we realized that film as a medium for capturing news was ending, so making that transition to ENG was keeping things going at the time, yet moving the transition.'

For Ira Goldstone, Tribune Broadcasting's vice president of engineering and technology, broadcast technology can almost be called a life-long affair.

"It was pretty much early on that I was on the evolution from public address systems to film to television," says Goldstone. "I tended to be tinkering with the family TV set a lot more often than my dad would have liked."

Born in White Plains, N.Y., on July 6, 1949, Goldstone's first exposure to broadcasting was at the age of 12, while working at his junior high school on a closed-circuit television facility. From there, he went to Boston's Emerson College where he received a mass-communications degree and also had his first engineering-management position: chief engineer of the school's television facility.

Upon graduation, he spent a summer at WHDH-TV Boston before returning to Emerson to work as the school's chief engineer. But it was in May 1972 that Goldstone made the jump to the track that ultimately got him to Tribune. He joined WCVB-TV Boston as a maintenance engineer and became an ENG pioneer, designing and outfitting multi-camera production trucks and RF systems.

"WCVB was probably one of the most advanced television stations at the time, both in the creation of local programming and the equipment in that facility, because it was built as digital back in 1972," says Goldstone. "It had central dynamic switchers, Ampex AVR-1's and Norelco TC-100 cameras, so it was the absolute edge of the envelope."

Those early days were difficult simply because no one knew how it all

worked. "Around 1975, we realized that film as a medium for capturing news was ending, so making that transition to ENG was keeping things going at the time, yet moving the transition," he explains.

Goldstone notes that he is one who is always looking over the next horizon, but while at WCVB-TV he learned that having the tools for the next horizon at his fingertips helped. "Every relationship I have with a vendor starts out with a vision of the future, not so much what they've got in a box that they can sell me today."

He spent nine years at the station, ultimately advancing to director of technical operations. In 1981 he made the move to Standard Communications in Salt Lake City, where he was vice president of engineering for KUTV-TV Salt Lake City and the Kansas State Network, a collection of six small-market stations. But the combination of small-market budgets and Salt Lake City lifestyle left him longing for the larger cities, so Goldstone made the move to Tribune's KTLA Los Angeles in 1983 as director of engineering.

Earthquakes, fires and riots all tested Goldstone's engineering mettle. And in 1990 he was promoted to director of broadcast operations and engineering, followed, in 1993, by the additional appointment of director of engineering for Tribune's seven stations. That double duty lasted for a year before Goldstone was named vice president and director of engineering for Tribune's 11 stations.

"Most of what I had to know for KTLA I also had to know for corporate, and that was at a time when Tribune did-

n't have as close ties between broadcasting and publishing, so I was able to focus just on the broadcast technologies. It was more of a facilitator role, running the NAB meetings, negotiating a pricing agreement, or getting consensus on a piece of equipment."

Today, Goldstone is heavily involved in the Group's move to DTV broadcasts. He manages technology initiatives at the broadcast-group level and also coordinates them with similar projects in the publishing and interactive groups. He also manages Tribune Broadcasting capital projects, station upgrades and technology associated with news expansion.

"As the cost of the platforms to complete our work has gone down and the versatility has gone up we've actually allowed technology to advantage us," he says. "And we're able to enhance our product accordingly. And as the price of encoding equipment and broadband interconnectivity comes down, content sharing becomes more viable."

Over the years, Goldstone has witnessed first-hand the changing role of the engineering department. No longer is its function simply to keep the cameras and tape decks running.

"The engineer has evolved from an appendage to a station management team to being a highly integrated part of the station management team as technology has taken a more prominent role," Goldstone explains. "Also, it has evolved from strictly an audio, video and RF world to one that includes networking technologies and computer systems and the Internet. And the scope of the job, and the reliance on engineering by other departments, become more critical."

Goldstone's involvement extends beyond his own group's goals, as well, as shown when he helped develop the idea of direct-channel change for digital television. "It goes back to really enjoying engineering and a challenge," says Goldstone. "Tell me something can't be done and that's more of a reason to do it. Your gut tells you from your past experience that it's the right thing to do, but it's taking the initiative."

That foresight is allowing all branches of Tribune to move forward

effectively. "The approach is to push the envelope and that when you make a decision you identify a vision, that this is the end goal," he continues. "And then look at the ways to best get to that end goal. For example, we started looking at digital 601 back in 1994 because we saw that the end goal was going to be digital television. And in our approach to media-asset management, we've tried to work closely with publishing and broadcasting for content exchange because we saw convergence being one of the keys to success.

So philosophically, it's to try to look at the landscape, identify where the world is going and work with vendors and standards-based technology that will get you to be there."

Awards given to celebrate a career are often given at the end, but Goldstone sees more work ahead. "I need to see through the successful implementation of DTV to the home," he adds. "We understand the production, we're starting to understand some of the transmission issues, and the whole rest of the equation." ■

*To the winners of the
Technology Leadership Awards
we extend our sincere*

Congratulations

*for your outstanding contributions to the
broadcast and cable industries*

Ira Goldstone

*VP Engineering & Technology
Tribune Broadcast Television Station Group*

Dick Green

President & CEO, Cable Labs

Mark Sanders

President and CEO, Pinnacle Systems

Fox Sports

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RCA

DICK GREEN

The industry's own Renaissance man

By Ken Kerschbaumer



'I'm driven to find solutions and push human knowledge one notch further, so I worked as a research physicist, but I always worked in television' as well.

With a career that spans both the broadcasting and cable side of the business, it's no wonder that Dr. Richard Green, president and CEO of CableLabs, is joining the list of Technical Achievement award winners. In fact, having a career that encompasses those two media, which often seem at war, might be his greatest achievement.

"I have a personal belief that broadcasters, cable operators, satellite operators and others are really contributing to a video distribution system and we all play a part in it," he says. "There are some aspects, like programming, that are competitive between cable and broadcast. And in those markets we should compete with each other. But technically speaking, we're really building the system together for distribution to the home."

Green, who was born on June 10, 1937, got his first taste of broadcasting as a teenager. A college drama professor in Colorado Springs, Colo., recruited him to perform in children's radio plays produced by the college station at Colorado College, KRCC(FM). Then, when he went to the same school, one of his professors hired Green to work at the station.

"I wasn't terribly good at reading news but I did finally get a job," he recalls. "But when television came along I went and got my FCC license and began working at KRDO-TV in Colorado Springs."

Green lived two professional lives in his early post-college days, working at Hughes as a research physicist and at KIRO-TV Seattle on nights and weekends.

"I'm driven to find solutions and push human knowledge one notch further, so I worked as a research physicist," he adds. "But all during that time I always worked in television and I never got disconnected from it."

In 1977, however, he made the jump to television full time when he joined ABC. He started at the lowest management level as engineer in charge. And if anyone doubts the influence of *The Captain and Tennille Show*, Green can lay those doubts to rest, as he saw the show in production while he was interviewing for a position there. He says that experience left him knowing that network television was where he wanted to be, and in the following years he worked on programs including *Family Feud*, *Soap* and *Barney Miller*. But it was while on *General Hospital* that he saw the importance of technology to story telling.

Green says the show was in trouble and they began to investigate what they could do to make it better. One thing they noticed was they had the first 1-inch tape machines at ABC and the machines were put to use for *General Hospital*.

"At that time soaps were shot live to tape, and we realized we could shoot it as a movie and out of sequence," recalls Green. That solved a few problems. First, it allowed working around child-labor laws for story lines involving Laura Quartermaine (she of the Luke and Laura fame) and making her role more prominent. It also allowed for moody lighting, different interiors, improved music and the means to reshoot scenes. The result?



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"We went from the bottom of the heap to the top in a matter of weeks," says Green.

In 1980 Green got his first taste of duties similar to his current position when he served as director for the CBS Technology Center. While there he helped advance HDTV technology and standards and also served as chairman of the committee that developed the CCIR-601 digital standard, one of the most important digital standards to be created. He was then named executive director for the Advanced Television Systems Committee, a position he held from 1983-1984. And in October of 1984 Green again changed hats, this time becoming senior vice president, broadcast operations and engineering for PBS.

It was in 1988 that Green made the move to CableLabs, becoming the first employee. "At the time I didn't know much about the cable industry and they interviewed me and I came away impressed," says Green. "Someone like John Malone is very technically capable as well as being a first-rate CEO and they all had advanced degrees in business or technical levels. So I became convinced it was an opportunity where I could make a difference."

Over the years Green and CableLabs have advanced cable technology in a number of ways. "First was the application of fiber where we helped get the industry

together on a unified approach to fiber," he says. "I also think we were the first group to write a request-for-proposal [cq] for home equipment for digital compression and we also worked on MPEG. And another element was the transmission of digital data which also includes telephony, streaming video and things like that."

But Green says it's the work done on cable modems that he believes will affect people's lives the most. "Being able to have broadband data delivery into 95% of the homes in this country is really exciting because it brings all kinds of new capabilities and stimulates new businesses and industries. And it brings customers a wider range of information and entertainment services."

Green's job at CableLabs seems to be the perfect mix for someone who enjoys both research and television. "I really like working in a lab where discovery is an objective," he says. "And it's a thrill to crank something through, mathematically understand it and publish a paper on it and be in the role of discovering new things. The other side of my personality has to do with production. It's a different kind of creativity and putting together a television program and coming up with new ideas to make it look more interesting is great." ■

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TIME WARNER
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MARK SANDERS



"Speed is everything. It's what attracts people."

Sanders reaches for Pinnacle

By Ken Kerschbaumer

Call it the power of suggestion. It was the late '60s, and Mark Sanders, an officer in the U.S. Navy, was serving collateral duty as an intelligence officer. During these stints, he would find himself sitting in front of peculiar recording units with a peculiar name on the bottom: Ampex Corp. Less peculiar but more intriguing was the location listed under the name: Redwood City, Calif.

"I had visions of this town with redwood trees growing right to the water," he says, "and, after staring at those things for years, I had it fixed in my mind that that's where I wanted to be." Thus began an 18 year career at Ampex.

Today, Sanders is president and CEO of Pinnacle Systems, based in Mountain View, Calif., one of the fastestgrowing companies in the industry. It ranks No. 37 among Deloitte and Touche's "Fast 50" technology companies in the U.S. and No. 308 among the consulting firm's "Fast 500" companies in the U.S. It now has more than 600 employees and manufacturer products ranging from PC TV tuner cards and editing systems for consumers to video servers, character generators and editing systems for professionals.

Straddling the consumer/professional markets is the place Sanders wants to be.

"If you look back at the great companies that are dominant in our industry, they're invariably in the high end and low end of the markets," he explains. "The reason is that the techniques are in the high end and the volume is in the low end. So we have huge volumes to buy the silicon and very highquality technology, which can be brought down to the consumer."

This combination has helped Pinnacle

live up to its namesake. The company has logged record net sales for 10 consecutive quarters (the most recent was 60% over the same quarter last year and 24% over the previous quarter). Of course, like all good tales of management, life wasn't always so good at Pinnacle.

When I joined Pinnacle, it was just 20 people, and we were in a restart mode," says Sanders. "Fortunately, the company had a very good strategy: to do professional video with PCs. In 1986, when the company was started, that idea was a joke. By 1990, when I came on board, it was becoming clear that openarchitecture computer solutions were going to win over dedicated hardware."

Sanders is very proud of the Ampex legacy, which still resonates throughout the Valley. "There are few companies in Silicon Valley that don't have an Ampex person or two," he says. "It was a great university for video. Europe has the BBC, the East Coast had RCA, and we had Ampex."

The last few years Sanders spent at Ampex taught him some bitter lessons. Those lessons helped shape his simple management philosophy. "I harp on three things," he says. "One is a clear strategy that everyone understands. Next is to get the best talent you can. And lastly, have an environment where people don't want to leave."

In an area where company loyalty lasts as long as it takes to spell IPO, keeping talent is no easy task. But Sanders has managed to do it. "Today's market is no longer about big companies eating the small. It's about the fast eating the slow," he explains. "Speed is everything. It's what attracts people. If you keep doing well, you'll keep the best people. And if you keep the best people, you'll continue to do well. So it feeds itself." ■

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KRMA-TV

Facility Owner: Rocky Mountain PBS

Architect: In-house

Systems Integrator: Beck Associates

Size: 1,400 sq. ft. (tech core, master), 500 sq. ft. (HD Edit)

Budget: \$2,000,000 (master, tech core), \$500,000 (HD Edit)

Completion Date: June 2000 (master control, tech core), March 2001 (HD Edit)

Bigger and automated

New master control system at KRMA-TV can handle four channels

By Alan Waldman

As part of a total system conversion from analog to digital that should be completed by May 2003, KRMA-TV Denver replaced its single-channel, manually operated, tape-based master-control system with a four-channel automated master-control system SDI with AES audio. The PBS station also installed an HD edit suite for a program broadcast in HD called *Spirit of Colorado*. The conversion is a cooperative effort of Rocky Mountain PBS, which comprising KRMA-TV, KRMJ(TV) Grand Junction, KTSC(TV) Pueblo, and Denver's other PBS station and KRMA-TV's partner in an operating agreement, KBDI-TV.

"This is a trend-setting master control, which is going multichannel to provide server-based, automation-controlled master-control services for four Colorado stations," explains Rocky Mountain PBS Director of Engineering Bud Rath. "That is the industry trend, and we are among the leaders in this movement. Among other things, we can now do faster-than-real-time transfers from the video servers to the archive system, and vice versa."

The automated, multichannel system allows a small operations staff to provide mas-

ter-control and satellite-record services, along with a digital tape-based archive system, for all four stations. It includes four Grass Valley Group M-2100 switch engines, three Grass Valley XP Profile video servers and Ampex DST-812 near-line archive storage. The system is driven by Encoda master-control automation, assisted by Novus Development systems for satellite recording and archive management, along with Avalon Archive management tools. The Grass Valley SMS-7000 digital routing switcher is configured 128x128 SDI/AES.

"To meet the needs for HD broadcasting, we installed a 400-square-foot digital edit suite, featuring the Sony HDVS-7150 HD video switcher, three Sony HDW-500 HD video-tape recorders, a Sony DMX E-3000 digital audio mixer and a Pinnacle HD-500 Deko character generator, all under the control of a Sony BE-2000 edit controller," says John FitzRandolph, engineering vice president for the facility's system integrator, Beck Associates, Austin, Texas. "It is capable of producing full-band HD programming in

the 1080i format."

System tri-level sync is provided by an Evertz 7750 SRG-HD sync generator. Included in the Sony HDVS-7150 high-def video switcher is an integrated Sony DME-7000 digital video-effects generator. All the monitoring in the room is in HDTV. Audio support comes from DAT Sony PCM-7040 and 360 systems Digicart II. Down conversion to standard definition is accomplished via a Sony DVW-500 Digital Betacam BTR. "We put in a 42-inch plasma display for the convenience of the producer to view the editing," adds FitzRandolph.

The next step will be the conversion of the production-control facilities, which will include a new Sony DVS-7250 switcher with DME, a Grass Valley SMS-7500 router, and a digital audio mixer. "Still-store and CG support are provided by Pinnacle digital boxes, which are integrated with each other and with the graphic facilities via an in-house LAN," says Rath. Studio cameras are Philips LD-10Ps, featuring a switchable aspect ratio, configured for SDI output. ■

'We can now do faster-than-real-time transfers from the video servers to the archive system, and vice versa.'

—Bud Rath, director of engineering, Rocky Mountain PBS

QVC JAPAN

Facility Owner: QVC and Mitsui Co. Ltd.

Architect: Kazuyoshi Otsuka, of Kukan Construction, Tokyo

Systems Integrator: AF Associates

Size: 12,600 sq. ft.

Budget: Near \$45 million

Completion Date: On-air April 1, 2001



Home shopping gets hi-tech

New QVC Japan system provides HDTV, full automation and flexibility

By Alan Waldman

QVC Japan went on air April 1 using robotic cameras, a virtual studio, server-based technology, automation, nonlinear editing and a near-line robotic archive system. Located in 12,000 square feet in four stories of the World Business Garden in Chiba, the new broadcast facility was designed with an easy upgrade path to HDTV.

"I've been trying to build a video-server-based system for over five years, but this is the first time we were able to get all the elements together," reports QVC Japan Vice Chairman David Frey. "This was much more complex than your typical automated system, providing full automation and media management of 6,700 hours of video."

Frey adds that one of the biggest needs QVC has is for flexible systems that allow the network to track sales, replace sold-out products, augment a product line that is selling well and build a library of full-motion product demonstrations (more than 30,000 per year). "Everything we do is Oracle-based, including our order-management system, warehouse-management system, on-screen graphics and automation system," he says. "Not all the interfaces are currently in place, but we are phasing them in."

The first floor of the new facility houses a large studio, the main production-control room, central equipment, a product-prep area, and dressing/makeup rooms. The second floor has a smaller studio, a full working kitchen, a three-walled cyclorama for the virtual studio, and a master-control/media manager's area, which serves as the control point for asset management. The second-floor production-control room is capable of simultaneous production, serving as a back-up control room and able to produce a second feed if necessary.

Also on the second floor are four Quantel edit seats (one with the advanced paint option), a graphics area using VizRT graphics and an Alias Maya graphics software package. A server room houses a Quantel Clipbox that supports the edit suites and on-air playout.

"The live feed is archived to an ADIC near-line robotic tape-storage system, utilizing six DVCPRO50 tape machines that are capable of storing approximately 7,000 hours of programming," reports Marc Bressack, vice president of sales for AF Associates, the Northvale, N.J., systems-

integration firm that handled the project.

The server room also houses the media prep/ingest area, where information is digitized for the server. Full station automation was developed by Nippon Systems Development to control ingest, playlist creation, playout, segment recording, and archiving/asset management.

The virtually tapeless system is based on CCIR 601 digital component video. "We went with a Grass Valley wide-band routing switcher, an NVision AES audio router and an NVision data router," explains AF Senior Project Manager Steve Sabin. "We chose a Radamec robotic pedestal system with multiple control points. The camera complement consists of Ikegami HDK-790 and HDK-79s high-definition cameras with Fujinon lenses."

The live control rooms are virtually identical, except that one uses a Grass Valley Kalypso two-M/E switcher, and the other utilizes a Grass Valley 1200. Other major components in the control rooms include Grass Valley Gveous DVEs, an Image Video under-monitor display tally system and VizRT character generators. ■

This was much more complex than your typical automated system.'

—David Frey,
vice chairman, QVC Japan



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TRIBUNE

Facility Owner: Tribune Co.

Architect: Roschen Van Cleve Architects

Systems Integrator: To be determined

Size: Studio 70,000 sq. ft., administrative building 60,000 sq. ft.

Budget: Not available

Completion Date: December 2001



Hollywood hot for digital

Tribune to modernize historic KTLA(TV) lot to appeal to creative community

By Debra Kaufman

In a major move intended to increase its presence in Los Angeles and the Hollywood creative community, Tribune Co. will thoroughly renovate and modernize the 10-acre KTLA(TV) studio lot, turning the historic 1920s Warner Bros. property into an all-digital facility. The renovation is timed to begin May 1, when Tribune, which has owned the KTLA lot since 1985, takes over its management from Hollywood Center Studios.

Fueling these actions, says Tribune Entertainment President and CEO Dick Askin, is a robust demand for state-of-the-art digital facilities from the Hollywood creative community. Tribune took its first stab at digital renovation in 1995 when it upgraded Stages 4 and 5 to digital and took over their management. The demand for Stages 4 and 5, which currently are the production sites of *Judge Judy*, *Candid Camera* and *Guinness Book of World Records*, persuaded Tribune to take over management of the rest of the lot and upgrade it to digital.

"What we're talking about is an underutilized asset," notes Askin. "This allows us to control our own facility, so we have more flexibility in scheduling our own shows and expanding our production slate, and it also

allows us to expand production rental, which has been a very lucrative business with Stages 4 and 5. It's taking the concept of vertical integration and following it through to its natural expansion."

Modernizing and renovating KTLA is no small task. The project will convert six sound stages, totaling more than 70,000 square feet, to full digital capabilities and construct three master control rooms (adding to an existing MC room), built around a central core. The central core will house the "guts" for all four switchers as well as tape machines and routing. The configuration of four master control rooms built around a central core will enable all the equipment to be interchangeable.

Says Tribune Vice President of Production and Operations George NeJame, "The project is currently at the drawing-board phase, based on a proposal put forth initially in early 2000." The renovation will rely heavily on Sony technology, including a total of 14 Digital Betacam cameras (including seven existing Sony 500s and 550s), Sony

7350 switchers and Sony DME graphics.

NeJame reports that Tribune is currently in discussion with vendors for routing, audio, ancillary equipment and systems integration. Though a systems integrator will be used for the project, NeJame notes that Tribune will be able to rely heavily on its own experience, having converted eight of its 22 broadcast stations to digital. The entire plant will also be HDTV-ready, including routing.

Says NeJame, "We're creating the infrastructure for HD."

Tribune Entertainment currently produces one of its shows, *Earth: Final Conflict*, in HDTV, in Toronto. "We're hoping to

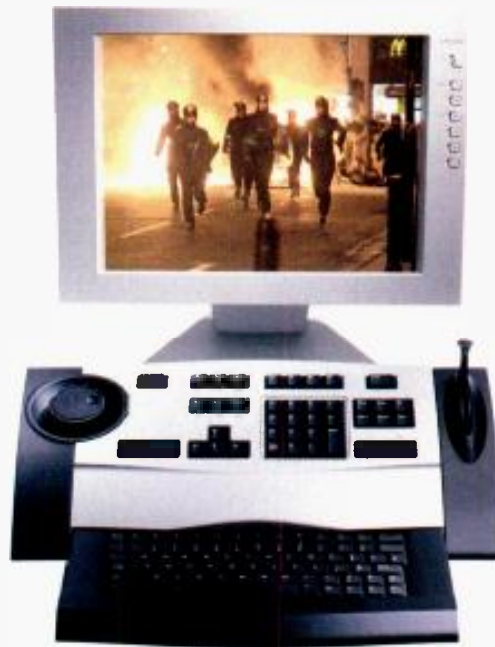
lure HD productions to the stages," adds NeJame.

Regardless of whether Tribune snags any of next season's planned HD productions, Askin emphasizes that the renovation underlines the industry's move from analog to digital. Although Askin sees the KTLA lot's HDTV capability as part of a long-term strategy, he points out that, for now at least, "consumer desire for HDTV is lagging." ■

The project is currently at the drawing-board phase, based on a proposal put forth initially in early 2000!

—George NeJame, VP, production and operations, Tribune Co.

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WRAL-TV

Facility Owner: WRAL, Capitol Broadcasting

Architect: Rees Associates

Systems Integrator: Capitol Broadcasting
(in-house)

Size: 35,000 sq. ft.

Budget: \$14 million

Completion Date: February or March 2002



Digital Garden of Eden

WRAL-TV continues to reinvent its facility as it moves deeper into HDTV

By Alan Waldman

Jim Goodman, president and CEO of Capitol Broadcasting, has long used his Raleigh station WRAL-TV as a laboratory to work out the kinks in digital broadcast. Goodman has worked closely with the FCC, ATSC, MSTV, CBS tech engineering (WRAL-TV is a CBS affiliate) and other national bodies to help develop digital standards. In 1996, WRAL-TV began the first regularly produced high-definition newscast in the nation, including field acquisition and studio production. Goodman has pioneered a wide range of devices and developments, getting, for example, Everest to make him the world's first high-def logo generator and Sierra Digital to make him the first one-in/eight-out distribution amplifiers.

So it is no surprise that WRAL-TV's recently completed expansion and current renovation involve noteworthy innovation.

"WRAL's expansion project was done to provide a new space for news broadcast, including a new two-level open newsroom, a news-production-control room and a news-production and -editing facility, as well as a new home for administration, sales and traffic," says Kyle Lombardo, project manager for Oklahoma City-based archi-

ects Rees Associates. "The technical core had been upgraded to digital before we came aboard, but WRAL is now in the process of converting the entire facility to high-definition 1080i. Because we knew it was going to be used for high-def broadcast, we wanted a more open newsroom."

The expansion features a new control room based on a Sony HDVS-7000 1080i switcher with a Wheatstone analog audio console and a large, new, improved graphics area with Chyron Infnit character generators and Aprisa still stores.

"In the transition, we converted field acquisition to Panasonic DVCPRO 100 one-piece cameras, and all the news editing is done with the Panasonic DVCOPRO 150 studio machines," reports Capitol Broadcasting Director of Engineering Tom Beauchamp.

In the refurbishment of the 35,000-square-foot facility (phased in to maintain operations), a new roof is being added, and all electrical wiring is being replaced. "We are not adding new equipment here, but we

are building new spaces around the existing equipment, including new electrical service and air conditioning," Beauchamp notes.

"This renovation project will have the world's first high-def live newsroom and will probably be the only place to shoot a high-def commercial," says Lombardo. "The new WRAL has flexibility built in to accommodate future needs. For instance,

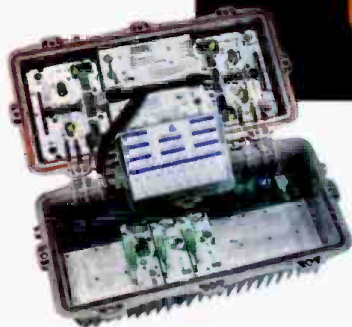
we have fiber to the desktop—just waiting for the desktop to come to fiber."

Goodman chose to stay in this facility and expand and renovate it because it has been in his family for generations. It is built on a famous horticultural spot and tourist attraction known as the Azalea Gardens, developed by his family just a few miles west

of downtown Raleigh. Azalea Gardens is being expanded too, adding rose, iris and other gardens to existing elements that celebrate broadcasting—such as the Transmission Garden, featuring a fountain with sweeping sculptural elements representing radio waves, and the Frequency Garden, set up in a sine-wave pattern. ■

This renovation project will have the world's first high-def live newsroom and will probably be the only place to shoot a high-def commercial!

—Kyle Lombardo,
project manager, Rees Associates



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WWSB (TV)

Facility Owner: WWSB-TV, Southern Broadcast Corp., Sarasota, Fla.

Architect: Carlson & Associates

Systems Integrator: AF Associates

Size: 21,500 sq. ft.

Budget: Not available

Completion Date: November 2001



The efficiency factor

WWSB (TV) makes the move to a more streamlined facility

By Alan Waldman

For three decades, ABC affiliate WWSB (TV) Sarasota, Fla., has been broadcasting from a building built in 1971 with manual cameras and analog systems (Betacam for news acquisition and a Betacart for commercial playback). But now it is moving into a new 21,500-square-foot, server-based, automated digital facility on the northern fringe of downtown and plans to go on-air in November. The architect is Atlanta's Carlson & Associates; AF Associates of Northvale, N.J., is the systems integrator; and key vendors include Philips, Omneon Video Networks, FAST Multimedia and Sundance.

"WWSB was willing to look at concepts that would allow it to operate more efficiently, so we moved to a server-based facility and introduced automation," reports AF's Senior Project Manager David Linick. "Omneon's networked content server gives them great operational flexibility at an extremely economic price. We researched automation systems and selected a Sundance system which will integrate all the elements needed for their programming requirements, including automation of satellite acquisition of syndicated programming (pointing the dishes, setting the receivers and moving programs onto

the playlist). Because a lot of WWSB's programming is syndicated, this simplifies things considerably. Omneon, FAST and Sundance saw promise in each others' products and developed a close partnership that saw equipment flying between their factories and resulted in a better product for WWSB."

Because WWSB provides a lot of news each day, news-clip playback needs to be as efficient as possible. So Sundance is working with the station to develop the next generation of its NewsBreak system, which will integrate the news playback from the server.

"A major goal of the station was to break up the afternoon bottleneck when news comes in and everyone has to wait for the tape to travel," explains WWSB President and General Manager Manny Calvo. "With the FAST Purple nonlinear editing system tied into the Omneon Network content server, when a tape comes in to the newsroom, it can be ingested to the server and be readily available to multiple users simultaneously."

WWSB needed to add new capability

and maintain highly efficient work flow, so the new facility will have a central repository of high-quality, all-digital material—removing the need for encoding and decoding and significantly improving work-flow efficiency by reducing the number of times humans have to interact with the product, says Slate.

'A major goal of the station was to break up the afternoon bottleneck when news comes in and everyone has to wait for the tape to travel.'

—Manny Calvo,
president and GM, WWSB (TV)

"We are going with the Oxtel Presmaster master control switch, which will be operating under Sundance automation control," Linick notes.

The new digital facility will use Philips LDK-100 cameras mounted on Vinten robotics. A Philips Venus routing switcher will provide the requisite core of serial digital, AES and RS-

422 control routing. In the main production-control room, a Calrec audio console complements a Philips DD35-3 production switcher. Other new equipment consists of a Pinnacle suite, including the FX Deko character generator, Lightning still store and DVE extreme digital effects. WWSB is currently in the process of converting field acquisition equipment to Panasonic DVCPRO. ■

CuttingEdge

BY MICHAEL GROTTICELLI

GEOVIDEO TAPS INTO ATM SERVICE

GeoVideo Networks has selected AT&T's Asynchronous Transfer Mode (ATM) Service to offer its customers an IP-enabled virtual private network for high-bandwidth video applications. GeoVideo will also join AT&T's Alliance Channel Program and market AT&T's Data and IP services as part of the agreement.

GeoVideo's service will use both the point-to-point and point-to-multipoint capabilities of AT&T's ATM service, enabling them to offer IP traffic routing, Multi-Protocol Label Switching (MPLS) and multicast capabilities—a technology which takes content from a single ATM virtual circuit and replicates it throughout the network for distribution to multiple endpoints.

CHASE HEADS THOMCAST GLOBAL

Thomcast's President Jerry

Chase has been named to head Thomcast Group's global operations. Chase succeeds Patrick Desproges, who has been named a senior executive elsewhere in the company. Coupled with this announcement, Thomcast has sold two of its new DCX Millennium digital transmitters to PBS stations WEDN-TV Norwich, Conn., and WHRO-TV Hampton Roads, Va. The DCX Millennium is an IOT system scalable for different types of users.

PHILIPS AND BE HERE TEAM ON SET-TOPS

Philips and Be Here Corp. have a new interactive set-top box application for use in sports, entertainment, news and other types of programming. Known as Philips/Be Here Picture-In-Picture Navigable Visual Content (PIP NVC for short), the application allows sports fans to independently navigate panoramic picture-in-picture

video via remote control. Rather than see only the frame chosen by a camera operator, PIP NVC viewers get to choose their own view from an immersive field of vision around the Be Here camera location, replay events from alternative angles, and generally look around as if they were inside the arena.

OMNEON HAS REAL-TIME SOLUTION

Omneon Video Networks wants to make real-time transfer of digital files over an Internet Protocol (IP) network affordable and reliable. To prove their point, the company staged a technology demonstration at its exhibit booth at NAB, showing DV (25 Mb/s) video and audio files being distributed in real time, using Gigabit Ethernet and IEEE 1394. This is an idea being talked about by broadcasters to replace traditional signal routing in a television facility due to the cost

savings involved with using common, off-the-shelf packet switches.

Using a standard PCI-bus IEE 1394 OHCI (Open Host Controller Interface) card, DV frames are converted to IP packets and RTP headers are added. The resulting "wrapped" packets are placed on a Gigabit Ethernet network, allowing them to be transported through standard Gigabit Ethernet switches that assign IP packets. Once a file is transported, the file is unwrapped from the DV data, allowing it to be displayed on a monitor at full quality. Omneon also said that this process could be used for MPEG and SMPTE 259M files. Omneon plans to market an encapsulator product that would automatically wrap and unwrap the headers around the DV files for transport.

SMPTE STANDARDS ON CD-ROM

The Society of Motion Picture and Television Engineers (SMPTE) has released its latest volume of standards on CD-ROM. It contains the latest information on final standards specifications. The disk is available at www.smpete.org.

COURT TV PICKS iNEWS

Court TV has selected Avid's iNews newsroom computer system to replace Court TV's existing Newsmaker newsroom. The 60-seat system includes Avid's iNews control system to provide automation functions.



What's in store for digital TV

NAB attendees got to compare notes and picture quality at The DTV Store. The booth, set up next to the NAB Store outside the exhibit hall, hosted a variety of digital and HDTV receivers—and PC's—from manufacturers including Sony, Panasonic and JVC.

Sony opens up

With HDTV progress slow and Internet future shaky, Sony broadens its business, teams with Accenture on digital-conversion consulting firm

By Michael Grotticelli

Sony is re-inventing its business to support third-party partnerships, electronic moviemaking and digital asset management.

Conceding that HDTV progress is “not what we had anticipated” and that the Internet is “still more promise than reality,” Ed Grebow, Deputy President of Sony’s Broadcast and Professional Systems Company, delivered this message as part of its “Anycast” theme for this year’s NAB show. It incorporates a new strategy for Sony that includes all of the professional technologies that are being exhibited in Las Vegas (either made by Sony or via a joint development agreement), to facilitate centralcasting, interactive television and high-definition production.

“This vision is not just about broadcasting,” Grebow adds, “but also narrow casting, webcasting and datacasting. It’s about enabling new business models, creating new revenue streams and delivering more eyeballs.”

He also said that “nobody believes that the 2006 deadline [for the end of NTSC] is real. Broadcasters will not be giving back their analog spectrum anytime soon.”

In line with this new “openness,” Sony has teamed with management and technology consulting firm Accenture (based in New York) to form Concadia Solutions, a new company—jointly owned by Sony and Accenture—that will provide engineering services and technical direction for stations to help them manage digital assets while making the transition to DTV. The two parties will develop new technical strategies and software applications. Norm Rickman will serve as President of the new venture.

Sony has also entered into a multi-year



The company is looking to create new revenue streams and deliver more eyeballs, says Sony's Ed Grebow.

technology agreement with A.H. Belo Broadcasting to develop a digital asset management system to allow Belo to take advantage of content from its TV stations and newspapers. The system will use 18 Sony NewsBase servers and a PetaSite

library that will link to each station’s video archive. Belo’s interactive division will also work with Sony to develop new applications.

New products on the show floor this year include a multi-format production switcher; a Master Control switcher; a Stream Bridge that allows the transcoding of different types of content files; its Xpri SD/HD 60i/24p nonlinear edit system; and a lighter, more robust version of its HDCAM line of camcorders. Worldwide sales of DVCAM have topped 200,000 units. That includes a new sale to Time Warner Cable, which has chosen the format for cable news applications.

This new direction also takes Sony into the ambit of filmmakers like George Lucas, who is using Sony’s HDCAM 24p camera to shoot his latest “Star Wars” movie. Lucas made an appearance at Sony’s press conference in Las Vegas to say, “I’ll never make a film on film again.”

Showing the possibilities of mobile transmission, Grebow also highlighted a new product called the AV/IT Gateway, a wireless LCD monitor with Internet access that uses 2.4 GHz transmission and MPEG streams. It is already on sale in Japan. ■

Chyron re-launches division

Renamed Digital Media Services unveils Internet distribution software

By Michael Grotticelli

Chyron Corp. has regenerated its Streaming Media Services division as Digital Media Services. The renamed division will help broadcast companies and corporations create and manage rich-media websites. As part of the

new initiative, Chyron has introduced a new software application called CoreStream that enables content providers to distribute their material over the Internet.

CoreStream includes the capability to distribute to multiple users, as well as data reporting to insure that the transmission is successful. The CoreStream software can automatically select the best server for any given audience member from a pool of hosting service providers. If one ISP gets bogged down with heavy traffic, it will seek another connection and immediately hook up, without the end-user noticing a change in the transmission, says the company. It supports all of the major streaming formats, such as Windows Media, Real Player and Quicktime, on both Macintosh and PC platforms. Chyron will offer the software as

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a standalone product (available in the fall), as well as using it for its streaming/hosting clients.

Rebecca Howland will head the new Digital Media Services division as President. "We've decided to do more than simply host a customer's event. We're helping people design and create their Website to include a high degree of interactivity, and we're developing for a wide variety of devices and outputs, not only the Internet," she said.

Chyron is also investing a lot of its R&D efforts into the interactive TV space, showing a number of features on its character generation (Aprisa, Codi and iNFiNiT!), graphics (Lyric) and Pro-Bel routing products. "It's a move we need to make and I think we're doing it at the right time," says Roger Henderson, Chyron president. ■

MSTV search narrows

By Bill McConnell

The Association for Maximum Service Television is expected to name a new president in two or three weeks, says Gary Chapman, chairman of the digital TV trade group.

The leading candidates are David Donovan, lobbyist for the Association of Local Television Stations; Marilyn Mohrman-Gillis, general counsel for America's Public Television Stations; and David Goodfriend, mass media aide to FCC Commissioner Susan Ness. "There are other candidates," Chapman said, noting that roughly 85 people applied to succeed the retiring Margita White.

The MSTV search committee inter-

viewed candidates over the weekend in Las Vegas at its meeting in conjunction with the NAB convention.

During MSTV's board meeting Sunday, Viacom/CBS Senior Vice President Martin Franks complained that the group's outside counsel, Jonathan Blake, has a potential conflict of interest because he also is representing the TV affiliates in an FCC petition accusing the networks of violating government rules governing relations with affiliates.

Franks said Blake's dual role leads disputes over network/affiliate relations to spill over to MSTV's effort to develop industrywide consensus on technology issues. Franks would not comment, but others at the meeting said he did not call for Blake's dismissal. ■

Know your PSIP

NAB crowd gets primer on care and feeding of transport stream

By Michael Grotticelli

When someone can't receive a picture on their new digital TV, it's often blamed on the ATSC's modulation scheme, but that's not always the case.

In fact, according to Gomer Thomas, a product manager at Triveni Digital (in Princeton Junction, N.J.), it could be that the receiver inside the TV set is having trouble recognizing the Program Specific Information Protocol (PSIP) information being sent by the local broadcast station. Thomas outlined the importance of PSIP at an IEEE session during the NAB convention, discussing how to correctly monitor and troubleshoot problems in a station's ATSC transport stream.

"I haven't seen a stream yet that's completely compliant with the ATSC standard," he reports. An electrical engineer, Thomas

develops products that help monitor broadcast signals and often checks digital reception wherever he is. In Las Vegas for the NAB convention, he had a DTV receiver and bow tie antenna set up in his hotel room and reports that he was able to receive KLAS-DT, the local CBS affiliate's digital channel, by pointing his antenna at the wall.

Most people associate PSIP information with the on-screen program guides detailing what's on a particular channel, but Thomas explains that the ATSC had a lot more in mind when it developed the standard. He says that broadcasters, for the most part, have neglected PSIP because it takes time and money to get it right and many engineers are busy keeping their NTSC signal working properly.

"Broadcasters need to realize the importance of getting certain elements of PSIP right in order to ensure that receivers work

the way they're supposed to," offers Tom Gurley, a representative for the Association for Maximum Service Television (MSTV). "When the standard first came out [in 1997], there was a misconception that the main purpose of the standard was to have an electronic program guide. That certainly is an important part, but there are other elements that must be made right as well. Not all of the problems on the receiver side are 8-VSB problems."

Not all of the problems on the receiver side are 8-VSB problems

—Tom Gurley, MSTV

In some cases, the problems are generated by the encoder being used by a station to get their signal on the air. Thomas suggests that station engineers "beat up" on the manufacturer that sold them the encoder and have them help troubleshoot the problem.

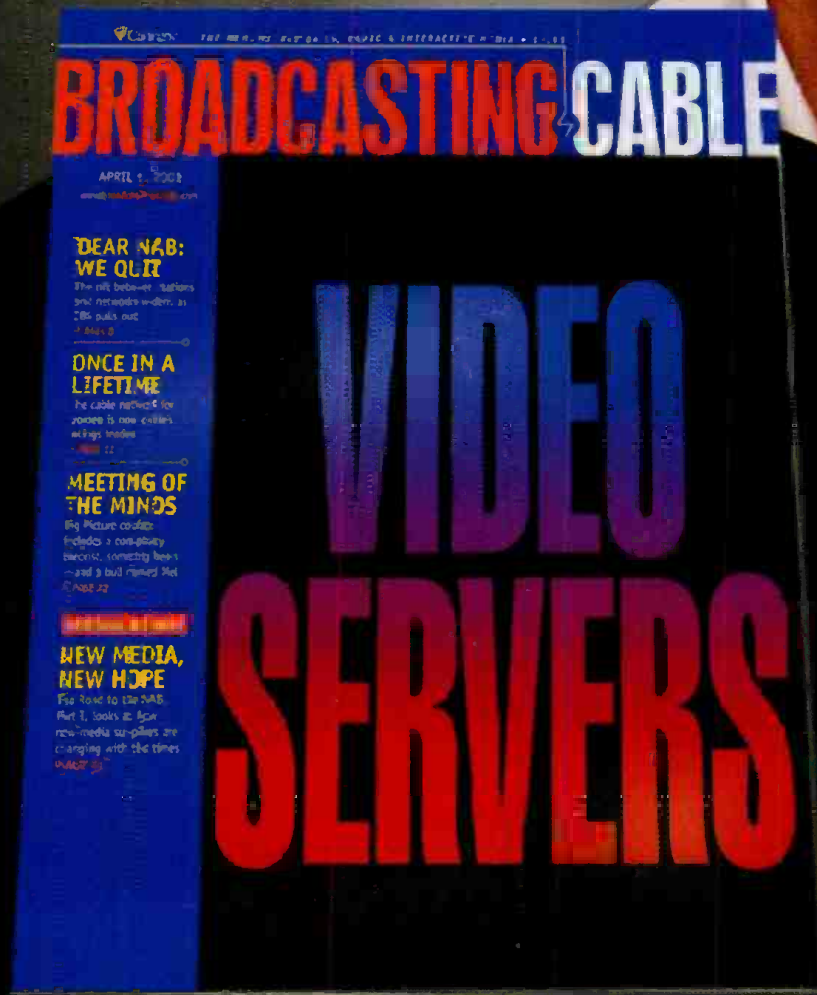
Stations should also have some type of monitoring equipment on hand to check their outgoing signal.

Thomas says that now, when the penetration of digital TV sets is low, is the time to experiment with PSIP and learn from your mistakes. That's what CBS is doing, according to one of that network's engineers. ■

We're serving up all the information you need...

With all the changes in the technology field this past year, it's imperative for you to be informed on how the video server market is impacting—and changing—the industry. On May 21, Broadcasting & Cable will serve up all the latest information on video servers. This report will include everything you need to know on the newest technology, applications, as well as what lies ahead.

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Fox, ABC get flexible

Nets buy Panasonic cameras with variable frame rates; company unveils new DVCPRO products, ATM interface

By Ken Kerschbaumer

Panasonic came to NAB with new products and customers in tow, with the company's latest camera already having friends in high places: Fox and ABC both purchased them.

Fox Digital bought two of the cameras, which offer variable frame-rate selection (Fox also purchased an AJ-HDC130DC DVCPRO HD VTR. And ABC Television has purchased a DVCPRO HD production system that includes the AJ-HDC27A, which will allow the network to acquire images in 720p. An AJ-HD150 recorder was also part of the package.

Panasonic Broadcast and Television Systems' NAB slogan this year is "digital networking for life," with the company's goal to integrate digital networking options, either based on the Internet or other data channel delivery schemes, with existing technologies.

Paul Liao, Matsushita vice president and chief technology officer, said the new product that most accurately fits this theme is the AJ-NP500 ATM interface. "It supports real-time distribution of DVCPRO HD native video with eight channels uncompressed audio over a single OC-3 link," he said.

The company also is offering a number of new products to support its DVCPRO lineup. A new DVCPRO camcorder, the AJ-D410, has three, half-inch 410,000 pixel CCDs (processing chips) and is expected to be available for under \$10,000 in an "ENG pack" configuration.

Two new DVCPRO VTRs were also introduced. The AJ-HD130DC is a dual-standard, half-rack-width unit HD VTR for desktop and field operations. The recorder includes a built-in HD/SD downconverter for conversion of 1080i or 720p to 480i as well as output of HD and SD signals in parallel for simultaneous transmission. List price is \$27,000.

A new studio editing VCR, the AJ-D455 was also unveiled. The new deck provides recording and playback in DVCPRO and standard and mini DV formats. Availability will be in the fall, with pricing to be announced.

The company's D-5 format also continues to make gains as a mastering format, with post-production company Modern Videofilm adding 20 AJ-HD3700 HD multi-format mastering VTRs. Alan Hart, Modern Videofilm VP/engineering, says the VTRs are "very potent machines for mastering, dailies and editing." ■

The new Panasonic AJ-HDC27A camera can operate at 24 frames per second as well as 36, 40 and 60 FPS, giving it flexibility for special effects use



The Avid NewsCutter XP 2.0 laptop editing system is now fully supported for clients of its Avid Unity for News system.

Avid markets mobility

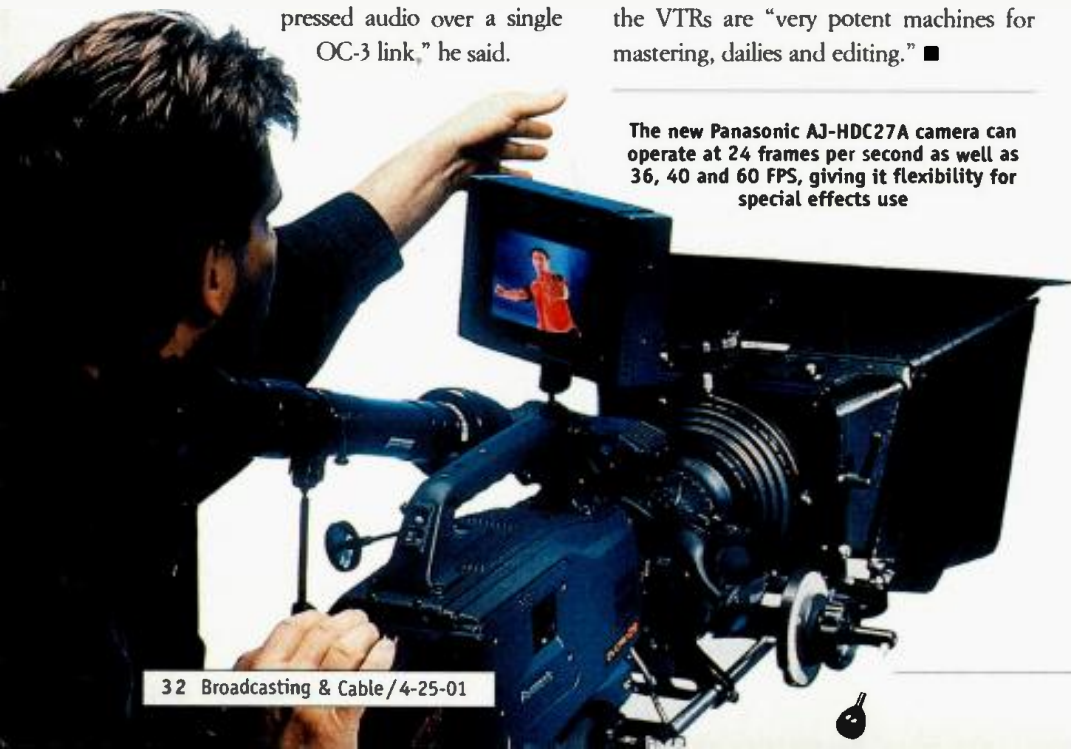
By Ken Kerschbaumer

Avid Technology is helping broadcasters put editing functionality into the field with its Avid NewsCutter XP 2.0 laptop editor and a new software-only version, NewsCutter XP Mobile, for notebook computers.

"We've spent a great deal of time integrating NewsCutter XP into iNews, MediaManage and TransferManager, so it's part of our end-to-end solution," said Joe Bentivegna, Avid Media Solutions vice president and general manager. "But the real benefit for broadcasters is that they can get the editing system into the field where the news is happening and they'll be able to get their news on the air first."

XP Mobile accepts and edits DV25, allowing editors to record video, edit it, and then relay the completed stories to the newsroom via microwave links. Pricing for NewsCutter XP Mobile starts at \$10,000. The NewsCutter XP 2.0 starts at \$21,000 and will be available in June.

Avid is also showing the first server enhancements to be born out of its acquisition of Pluto Technologies on the AirSpace 2.0 server. "It's tightly integrated with Avid NewsCutter, Unity for News and iNews," said Bentivegna. "It also supports DV50 and Sony protocol." The server also has 10 times the network transfer speed and an increase in the number of video channels to 8 DV25 or 6 DV50. Cost begins at under \$70,000 for 12 hours of capacity. ■



Indecision 2002 at NBC

Network debates whether to delay West Coast Olympic feed

By Steve McClellan

NBC executives are divided on whether to air delayed prime time coverage of the 2002 Olympics in Salt Lake City, sources say, and the final decision has been kicked up to company President Bob Wright. Sources say that the network's owned TV stations division and the network sales department want the delayed West Coast feed—as do most West Coast NBC affiliates—to maximize Olympic revenues.

The network has told affiliates it's considering one live feed that would air in prime time on the East Coast at 7:30 p.m.-11 p.m. and at 4:30 p.m.-8 p.m. on the West Coast. West Coast stations don't like it because a single feed would blow out their local evening newscasts. They also wouldn't be able to charge advertisers higher prime time rates for local Olympic inventory.

But NBC Sports Chairman Dick Ebersol wants the single feed, sources say. "He doesn't want this to be the first American Olympics that's delayed anywhere," a source said. Network officials have said repeatedly that they won't comment until a decision has been made.

Meanwhile, a formal poll of NBC affiliates in the Pacific Time zone will be taken shortly to determine where they stand on the issue. But the poll is largely a formality—most stations have already let the NBC affiliate leadership know they want the delayed feed.

According to Jack Sander, chairman of the NBC affiliates board, and head of Belo's TV division, the West Coast stations that addressed the issue at the affiliates



Like most NBC affiliates in the region, the network's own West Coast stations, overseen by Jay Ireland, want a delayed prime time feed for the 2002 Olympics

meeting at the NAB said they favored the delayed feed.

Also at that meeting, there was some discussion of the recent grievances filed by the Network-Affiliated Stations Alliance. Sander confirmed that some NBC stations expressed concern about whether the networks and stations can continue to work with each other to solve problems, given the current strained relationship.

Sander said he replied that he and the

other NBC affiliate board members continue to talk regularly with top network executives—in his case two or three times a week. And the full affiliate board will meet with network executives in New York in mid-May, around the time of the NBC upfront presentation to advertisers.

"I'm hopeful that it will ultimately be constructive," Sander said of the NASA filing. "It certainly isn't at this moment, but hopefully it will be. I think the big story coming out of here is that we are still talking," said Sander.

They've certainly talked about the XFL and "hopefully, the demise of the XFL," said Sander. "Every indication," he said, is that it won't be back on the network next year. ■

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Broadcasting & Cable's

Technology Leadership Awards



Bill McGorry, Denise O'Connor and David Hill

Four of the industry's best and brightest were honored Tuesday night at the fourth annual Technology Leadership Awards, sponsored by Broadcasting & Cable.

The recipients were: ■ Ira Goldstone, VP, engineering and technology, for Tribune Broadcasting; ■ Richard Green, president and CEO of Cable Television Laboratories; ■ Mark Sanders, president and CEO of Pinnacle Systems, ■ Fox Sports, represented by David Hill, Fox Sports Television Group chairman and CEO.

Each was awarded a crystal commemorative of the event by Bill McGorry, senior VP of Cahners TV Group; Larry Oliver, VP and group publisher; and Denise O'Connor, B&C associate publisher. Editor-in-chief Harry Jessell introduced the honorees.

Goldstone, in a long and distinguished career, has put Tribune in the forefront of emerging technologies. Green, now heading the cable industry's advanced TV laboratory, is a broadcast high-definition TV pioneer. Sanders helped build Pinnacle into a \$300 million technology leader. Fox Sports was honored for its numerous innovations, including the "Fox Box" of game information and groundbreaking coverage of the NFL, NASCAR racing and hockey.



Larry Oliver with Ira Goldstone



Bill McGorry with Richard Green



Denise O'Connor with Mark Sanders

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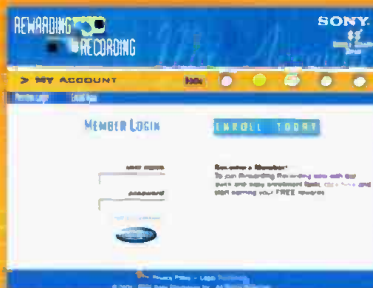
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