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## 1 kW Deluxe

The Collins 20V was a joy to maintain and operate.

Page 20

## Don't Take Us For Granted

New campaign seeks to remind consumers that the medium is alive and well.

Mary Ellen Dowley



Page 3

# Radio World

\$2.50

The Newspaper for Radio Managers and Engineers

May 21, 2008

## INSIDE

### NEWS & ENGINEERING

▼ Photos help an engineer establish an insurance claim.

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▼ Opportunities for mobile devices abound, though SFF gadgets still have a long way to grow.

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## JM JOURNAL



▼ You can have lots of fun with physicians on the air. It's time to 'play doctor' in this edition of Promo Power.

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Before the industry can promote HD Radio properly, needs to be frank about the failure of marketing so far.

Page 46



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## HD Radio Coverage Is a Power Issue

Proponents Also  
Focus on Cost,  
Portable Products

by Leslie Stimson

**LAS VEGAS** HD Radio proponents are making an effort to lower conversion costs for stations in medium and smaller markets. They hope that next-generation, lower-cost exporters expected to ship this year, combined with other incentives, will encourage more broadcasters to convert to the technology.

That was one of the themes for digital radio at the NAB Show. Meanwhile, the elevated power level debate dominated many engineering discussions, while Ibiquity Digital also showed off HD Radio-equipped mobile devices that are coming into the market.

Here are highlights of digital radio news at the convention.

### ELEVATED POWER LEVEL IS INTENSE TOPIC

How to implement elevated FM transmission power levels is a significant issue

See DIGITAL, page 8 ►

### FACILITY PROFILE

## Radio on the Avenue Of the Americas

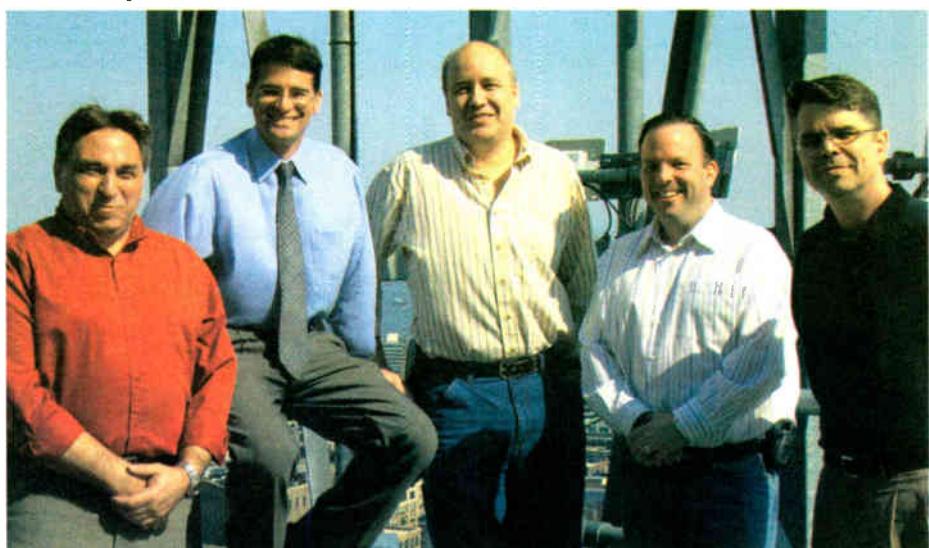
*Clear Channel Opens Huge Collocation Facility  
In Historic Art Deco Building in TriBeCa*

by Tom Vernon

Once headquarters of AT&T, a historic building on Sixth Avenue is again a focal point for media technology. It is the new home of Clear Channel's New York FM operations.

The five stations occupy 120,000 square feet of the second, third and fourth floors. The building was the point of origin for the first transatlantic cable, and the end points of the first around-the-world phone call in 1935.

See CCNY, page 26 ►



Clear Channel engineers (left to right): George Marshall, Josh Hadden, Henry Behring, Jeff Smith and Doug Irwin

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# ◆ NEWSWATCH ◆

## Dingell, Markey Embrace Open Device Concept

**WASHINGTON** Two powerful Democrats who lead committees that regulate communications have not taken a position on the satellite radio merger; but they've told the FCC that if it does approve the deal, certain conditions should be met.

Reps. John D. Dingell, Mich., chairman of the House Commerce Committee, and Ed Markey, Mass., chairman of the Subcommittee on Telecommunications

and the Internet, told Chairman Martin to ensure that any device manufacturer is able to develop equipment that can deliver the new company's satellite radio service.

Manufacturers should be allowed to incorporate into new satellite radio receivers any technology that would not result in harmful interference with the satellite network, "including HD Radio technology, iPod ports, Internet connectivity or other technology," they wrote.

They said the company also should be prohibited from limiting consumer access to these devices or features that might be included in such devices through exclusive contracts. "It would be contrary to the public interest, for example, to permit

the merged company to bar HD Radio chips or iPod compatibility" from being included in a new satellite radio device, "whether that device is freestanding or installed in an automobile," they stated.

The merged satellite company should be required to adhere to the price constraints they originally proposed, said the lawmakers.

ufacturer in Arizona, acquired audio and broadcast equipment maker Audio Technologies Inc.

"New funding and management provided by ICAG will allow ATI to modernize and expand its product line to better serve its target markets," International Contract Assembly Group stated.

It acquired ATI from DaySequerra.

The new owner named Art Constantine as VP of sales and marketing, which means Constantine moves along with the ATI line in the transition from the current owner, where he'd been director of sales. He said DaySequerra and ATI will continue to have a close association.

ICAG, a precision manufacturing facility, has supplied PC board assemblies and manufactured components to ATI. Sheryl Murphy is president. ATI sales will be based in New Jersey and manufacturing in Arizona.

## ICAG Buys ATI From DaySequerra

**WEST BERLIN, N.J.** International Contract Assembly Group, a contract man-

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## Court Questions Some BPL Rules

**WASHINGTON** A federal appeals court has sent back to the FCC two portions of the rules for broadband over power lines, for better justification. The agency must also publicize its BPL-related studies.

All the rules remain in effect, however.

The court sided in part with the American Radio Relay League, which had challenged the BPL rules. The ARRL said the ruling is significant in that it could lead to changes in the rules and in the way some BPL companies operate.

At issue when the FCC instituted BPL service rules nearly two years ago was the question of whether its operation could interfere with amateur radio frequencies. The commission wanted to create BPL as a broadband "pipe" into

See NEWSWATCH, page 14 ►

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# 'Localism' Is on the Minds of Managers

*Meanwhile Industry Leaders Say Radio Isn't Coming Back; It Never Went Away in the First Place*

by Leslie Stimson

**LAS VEGAS** While much of the radio news at April's NAB Show concerned digital developments, other topics were discussed, especially the FCC's localism proceeding.

This was an unusual show in that none of the commissioners took part. Shortly before the convention they were summoned to testify on Capitol Hill about the 700 MHz auction.

Thus the "Chairman's Breakfast" became the "Issues Breakfast" and eventually was scrapped altogether and replaced with an RTNDA Super Session about the 2008 elections. A "Regulatory Face-off" with Commissioners Jonathan Adelstein and Deborah Tate also was cancelled.

FCC staffers did participate in some sessions.

In his keynote, NAB President/CEO David Rehr said the organization is working for broadcasters through its efforts to prevent another performance royalty, block the XM-Sirius merger and urge the FCC not to create restrictive localism requirements.

Here's a wrapup of news coming out of this spring's 2008 convention. News related to digital radio is reported on page 1.



NAB President/CEO David Rehr

An NAB survey shows people want new, unique content. They want niche channels, Rehr said, such as those promised by HD-R multicast channels.

Some critics said HD Radio would never make it, Rehr said, that it was too expensive and on too few stations. "That attitude is changing," said Rehr, noting that Ford, Mercedes, Volvo and BMW have made announcements about offering HD Radio.

"We still have a lot of work to do on this, but we are certainly headed in the right direction."

## ROBBINS BEMOANS 'MEDIA ABYSS'

In a speech that surprised NAB officials and attendees in its tone and content, actor/activist Tim Robbins delivered a humorous, sarcastic and profanity-laced attack on the consolidation of viewpoints carried by national media and on the administration's Iraqi war policies.

Although some people walked out, many in the Hilton ballroom gave him a standing ovation.

Robbins noted that he had been labeled a traitor for previous comments about the United States and its involvement in the war in Iraq. He told attendees he had been advised that his prepared speech might be too negative for the audience and that the

past year by 3 million to 235 million listeners in a given week.

But there are challenges. NAB research shows that many listeners acknowledge they take radio for granted "precisely because it's so pervasive. The public's love of radio is still there, they just need to be reminded of it. We need to reignite that passion."

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## REHR: RADIO'S BUSINESS MODEL NOT BROKEN

In his opening address, Rehr said he was intrigued by the marketing for online video site YouTube, which uses the slogan "YouTube — Broadcast Yourself."

"They use the word *broadcast*," he said. "They obviously don't think the word is outdated, or tired or irrelevant. But the question is, do we?"

Saying that each morning brings a new challenge for the industry, Rehr observed that broadcasters can be a bit cynical.

"I'm afraid that some people in this business have been staring so long at the door that's closing, they haven't seen the new door that's opening. The digital door.

"If we don't believe in ourselves, how do we promote our future? How do we promote our business and our valuable content?"

Though business and mainstream press have delivered eulogies for radio, Rehr said NAB's branding study shows the medium remains relevant.

"The first thing we learned: Nearly everyone said they rely heavily on radio for the information and entertainment they want or need every day."

"Our model is not broken," he continued, pointing to Arbitron data showing radio's weekly audience has grown over

## HD-R: 'HEADED IN RIGHT DIRECTION'

Through Radio 2020, a project launched at the fall NAB Radio Show, the association and its industry partners say they intend to reposition radio in the public's mind.

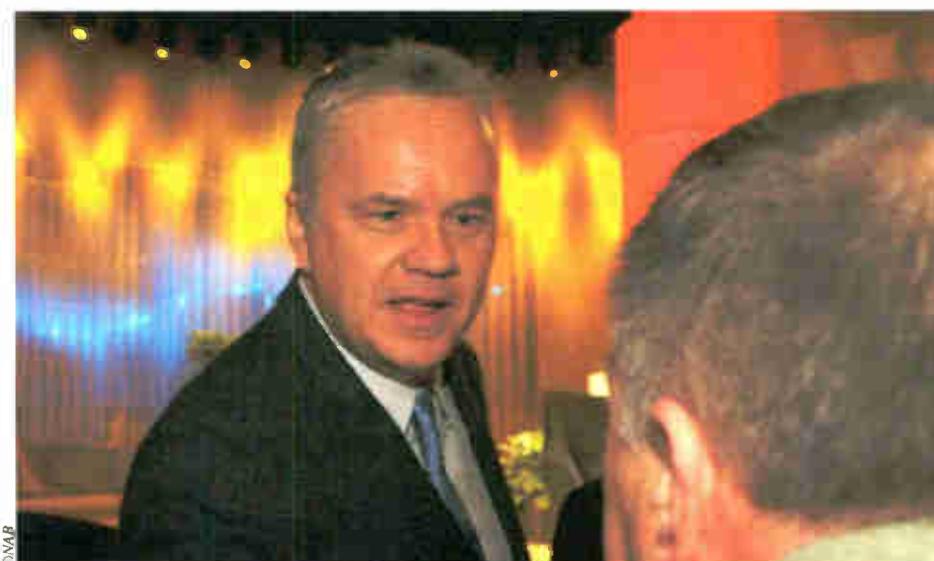
To that end, NAB is going to make sure radio is part of every new gadget, especially hand-held mobile devices, Rehr told attendees.

text would be eventually be available.

Then someone in the audience yelled "Speech!" Robbins asked if he should read it, and attendees clapped. (He had been scheduled to do a Q&A with TV critic David Bianculli but read the speech instead.)

And so Robbins began by issuing a sarcastic "apology" with a dismissive line about "Rush, Sean, Bill, Laura what's-

See SHOW, page 5 ▶



Actor/activist Tim Robbins greets attendees after his controversial keynote.

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# A Person Cries for Work That Is Real

"I can't for the life of me tell you how I came to broadcasting as a career."

A prominent broadcast engineer wrote to me, sharing his thoughts about the profession. He asked me not to identify him but agreed to let me quote him as fodder for your own thinking and comment.

His remarks are timely, particularly in light of the article on page 18 of this issue about online training.

This reader — whose name you would recognize but who is not a regular contributor to RW — knew he was headed toward broadcasting long before he had an idea of what it meant to be a broadcast engineer — before puberty or advanced education.

"It turns out that everything about it seems to suit me," he wrote. "The showbiz aspect, the RF, the towers, the heavy iron, the dangerous voltages, the facilities, the challenges of nature."

He embraced the hands-on aspects of engineering, the creativity and sense of larger purpose, the independence and responsibility he was given in a small organization.

He enjoyed the opportunities, tasks and seemingly endless skills that were necessary. He loved that the product of his labor was something he could hear or see miles away and the headiness of knowing that "his" signal radiated to places he would never visit — even into space.

"Very few careers have that combination of practical and useful magic," he says.

He keeps a Marge Piercy poem, "To Be of Use," framed in his home office:

"The people I love the best jump into work headfirst ... the thing worth doing well done / has a shape that satisfies, clean

and evident ... The pitcher cries for water to carry, and a person for work that is real."

He believes broadcast engineering is just that.

## Still worrying

When he entered the field, he was told that it was poor paying, probably not challenging enough, had little future and lousy hours, and most of all that there weren't young people coming into the field.

"The skills and arts would be lost as the

nology became less 'needy.'"

Now, he says he hears more talk: Where will the next generation of broadcast engineers come from?

"For me, it's been 35 years, almost half the history of broadcasting; and we have yet to either run out of broadcast engineers or cease to worry that the tipping point is just around the corner," he wrote.

"I know we haven't run out of engineers — because the wages in this free market have not reached what any number

**An engineer writes, 'For me, it's been 35 years, almost half the history of broadcasting; and we have yet to either run out of broadcast engineers or cease to worry that the tipping point is just around the corner.'**

broadcast engineers around me who had put the stations on the air retired, and the golden age had passed."

It made him feel good to know that he was the rare young person coming into the field, ready to save a grand profession into which he seemed born.

That was in the 1970s.

"As time marched on, the number of working engineers decreased more or less in step with the declining need. The engineering departments became a chief and an assistant. That soon became the lone group engineer. Ten to 15 years behind radio, even TV consolidated and its tech-

of professions, or more comparably, trades have reached."

The law of supply and demand is a pesky reality: "If more broadcast engineers were needed, the wages would go up, one could pick one's opportunities and the industry would band together to make and support broadcast engineering schools. We'd be raiding other countries for skilled broadcast workers.

"Without that happening, I can only doubt that we have ever been or will likely be on the brink of disaster."

So why does it feel that way? And if this is just a job, why do engineers care so

## From the Editor



**Paul J. McLane**

much about the trend?

"I don't think that plumbers, electricians, lawyers or doctors seem to worry as much as we do — maybe nurses do, but they do have a real crisis."

Part of the answer is that this isn't in fact "just a job." Broadcast engineers believe in their hearts that what they do is important.

## See the next generation

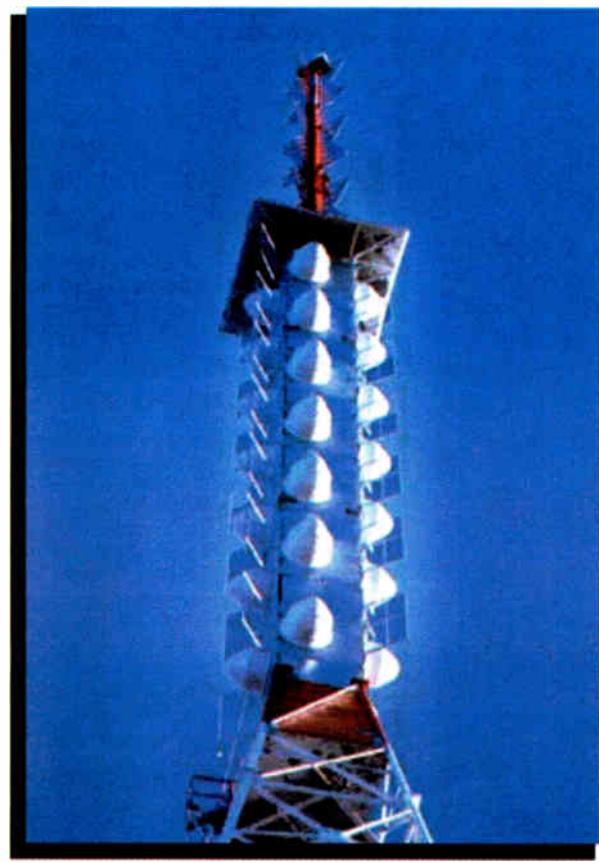
He thinks too that today's engineers have less of an opportunity to see youngsters directly in front of them.

"When I started, I was marginally good for remotes, some general cleaning and blindly swapping all the tubes in the mixing console out." Only later did other skills develop: editing tape, aligning cart machines, setting anti-skate on a turntable, peaking grids, dipping plates and setting video tape head penetration.

"All came later, and all are now antique and meaningless skills." But new skills have replaced them. "The younger folks I

See ENGINEER, page 6 ►

## When You Want More Than Just An Antenna



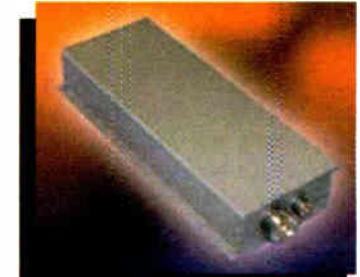
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# Show

► Continued from page 3

her-name and Savage ... the talk radio geniuses" for his skepticism over the United States war with Iraq.

He contrasted this with the media's need to focus in "great, salacious detail" on a president's sexual escapades and their push for impeachment "because he lied" about it.

"Our moral responsibility is to report on the sex lives of our elected leaders," Robbins quipped.

He called on the industry to pull back from the kind of reporting that excessive-

nine areas. It would repeal the rule allowing unattended operations, reinstate the pre-1987 rule requiring main studios to be located within the community of license and limit voice tracking.

The commission particularly is interested in hearing how changes would affect stations operationally and financially, he said.

Panelist Frank Jazzo of Fletcher Heald & Hildreth said the commission is worried about stations' abilities to relay emergency information to the public if they are unattended.

Years ago, he said, many stations were not manned overnight for economic reasons and would turn off their transmitters. The rule allowing unattended operations



**FCC Media Bureau's Roy Stewart, Bill Freedman and Chris Robbins discussed what the commission hopes to glean from comments by broadcasters in the localism proceeding.**

ly focuses on starlets. Such news requires no energy and little thought, he said.

Robbins issued a challenge to broadcasters: "We are at an abyss, as an industry and as a country. ... This is a nation divided and reeling from betrayal and economic hardship."

Broadcasters, he said, "have tremendous power, and the tremendous potential to effect change. You have the power to turn this country away from cynicism ... to turn this nation away from the hatred and divisive dialogue that has rendered such a corrosive effect on our body politic."

In response to the speech, NAB Spokesman Dennis Wharton stated: "We found Mr. Robbins' remarks to be entertaining and thought-provoking, although we were not expecting the expletives that were not deleted. We obviously disagree with some of his characterizations but respect his viewpoints."

Among those reportedly upset by the speech were NAB board members.

Shortly after the show, Pam Magnani, a senior vice president for conferences and meetings in NAB's Conventions & Business Operations Division, reportedly left the organization, pushed out in part for having a hand in booking Robbins. NAB declined comment on her departure.

## STATIONS FEAR MANDATED 24/7 STAFFING

Seeking to justify proposed changes in broadcast regulations to ensure stations meet localism obligations, FCC Associate Chief of the Media Bureau Bill Freedman said the agency has received "many comments critical of broadcasters," comments saying stations aren't doing what they should for their communities.

"We have a massive record but we need broadcaster input," such as whether there are unintended consequences of the agency's proposals, or other ways to achieve the same goals. Freedman spoke in a session about FCC enforcement.

The agency has proposed changes in

**They use the word *broadcast*. They obviously don't think the word is outdated, or tired or irrelevant. But the question is, do we?**

— David Rehr,  
referring to YouTube

has allowed many to go on the air 24/7, and most have procedures in place to disseminate information in an emergency, Jazzo said.

(Indeed, at a session devoted to unattended operations, NAB passed out a checklist that was compiled by its Radio Operations Department after polling station executives at nearly 500 stations last summer. Highlights include regularly updating and confirming emergency contacts, training at least three employees in emergency procedures for unattended operation and using audio failsafe systems to alert station staff if the facility goes off the air. EAS testing is also on the checklist.)

"I've had people tell me if they're forced to staff the station at night, they're afraid they'll lose the station," said Roy Stewart, senior deputy bureau chief of the Media Bureau. "There's some concern about getting people for night [shifts], or being forced to go off the air."

While the main comment deadline has passed, reply comments in the localism proceeding are due to FCC MB Docket 04-233 on June 11.

See SHOW, page 6 ►



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# Show

► Continued from page 5

## GOING 24/7 MAY NOT ACHIEVE GOAL, BROADCASTERS SAY

To allow FCC staff to hear from broadcasters directly, NAB arranged for station executives to speak during a session devoted to unattended station operations during emergencies, and to describe the practical implications of changing the unattended operations rule.

Travis Cronen, operations manager/IT director for Cherry Creek Radio in Denver, said the company's stations rotate an on-call person who monitors newscasts and other source of emergency information and alerts key station people; they, in turn, alert the public during emergencies. The stations also have contacts with police, fire and other emergency organizations.

Some panelists argued that just because a station is staffed at night is no guarantee emergency information will be disseminated.

Bruce Goldsen, president and general manager of Jackson Radio Works, a three-station cluster in Jackson, Mich., said his stations are unattended from 11 p.m. to 4 a.m. During that time key managers who have contacts with local law enforcement agencies can amplify warnings if need be, he said.

Regarding consequences of mandating

24/7 operations, he fears "not every broadcaster will serve the public, and if it's put in law, 24/7 becomes the minimum [standard]."

What if you have someone sitting in the studio at 3 a.m., he asked rhetorically. That person may not know where to call in an emergency. He and others who spoke during the session argued it would be better *not* to have nighttime staff interacting with the automation system at critical times, presumably because those employees are more likely to be poorly paid and trained.

Some stations tell the FCC they have plans in place to handle announcements during an emergency, "but they have no live announcer to provide follow-on commentary to listeners about what's going on," said Tom Hutton, deputy division chief of the FCC's Audio Division in the session.

Post-Katrina, he said, the agency is taking a hard look at what it can do to improve public safety.

Some broadcasters have complained that what the agency wants to hear from them is vague, Hutton said, so he encouraged them to weigh in with further detailed suggestions. He also urged stations that have built relationships with local law enforcement to ask those contacts to submit comments too.

## 'RADIO HEARD HERE' BEGINS

The "Radio Heard Here" campaign, which backers say will remind consumers

## NEWS

the medium is alive and well, has launched.

"They say radio is making a comeback, but you and I know that it never went away," said Rehr and Radio Advertising Bureau President/CEO Jeff Haley in a statement.

This partnership between NAB, the RAB and the HD Digital Radio Alliance centers around four elements aimed at engaging the industry and consumers: advertising, industry and trade outreach, public relations and viral communications.

Some 92 percent of Americans believe radio is important to their lives because it

with the logo itself.

Mercury Research President Mark Ramsey called the thunderbolts "old" and said they reinforce radio's image as historic rather than cool.

## SHOW TAKES INTERNATIONAL FLAVOR

The amount of foot traffic in the North Hall was visibly lighter this year, even on the first day. Radio groups seemed to be sending smaller engineering contingents to Vegas and some, including Clear Channel Radio, were absent.

NAB said registered attendance was about 105,200. That compares to 108,200 for NAB2007 and 105,000 the previous year.

Organizers reported a record 28,310 international attendees, surpassing last year's figure of around 27,000. The trade association said that 80 international groups attended. Delegations came for the first time representing Jordan, Sri Lanka, Kenya, Nigeria, Angola, Ghana, Russia, Columbia and Uruguay.

Among more than 1,600 companies that exhibited, 550 are headquartered outside the United States, up from 470 last year.

The show was positive for exhibitors, according to NAB, which said an estimated \$50 billion would be generated in commerce at this show, basing their estimate on past shows.

"These figures demonstrate convincingly the staying power of the NAB Show brand," said spokesman Dennis Wharton.

The dates for next year's event are April 18–23.

*Upcoming: Radio World "Cool Stuff" Award winners and highlights of the Public Radio Engineering Conference.*



Campaign Logo

connects and informs — and it continues to garner 235 million listeners a week, according to Rehr and Haley. But while consumers value radio, they also often take it for granted because it's so pervasive.

In addition to the Web site, two blogs are operational, at [www.radioheardhere.com](http://www.radioheardhere.com) and [www.radiocreativeland.com](http://www.radiocreativeland.com).

"In the coming weeks, more resources will be introduced, including brand guidelines on how to use the new logo, raw creative to incorporate into station promotional activities and an insider's guide — essentially a fact book containing what we need to tell people about radio," Haley and Rehr stated in their announcement.

They said 84 percent of respondents in a 5,000-person study were shown the "Radio Heard Here" logo and "loved it." But not everyone was impressed, even

## Engineer

► Continued from page 4

meet are often 'jazzed' to be on the air, even if much of it is coming off a satellite dish or out of a server." While he's feeling that a golden age has past, today's "kids" are just as sure it is only beginning.

Another reason engineers worry about the next generation is that more than others, engineers don't work for the financial gain.

"It's about the self-fulfillment. It's not a job but a career. Not a vocation, but an avocation." But, he suggests, engineers, particularly older ones, could channel these feelings into a more positive approach to the field.

Consider the number of people who work for ministries, or public radio. Consider the fold of community broadcasters who may be discouraged by spectrum policies but are still doing what they can with what they have, where they are.

"This does some weird things that we older folks might want to think about," my engineer friend continued.

"Rather than putting energy into worrying about where the next generation is coming from, we can be a lot more positive putting energy into providing the training opportunities for the next generation. I really don't think it's so much about recruitment or promotion as it is about education and continuation of the mentoring process."

The field is furnished with few schools, so broadcast engineers pick up most of their skills on the job and through more generalized learning opportunities.

"There are a lot of reasons why a broadcast engineering school is a difficult thing to accomplish," he continued. Factors include a small student pool, funding, density of broadcast engineers in any one location and lack of industry support stemming from an adequate supply of engineers available for any reasonably rewarding job.

Mostly, though, broadcast engineers tend to be autodidactic, learning through self-direction. "It's part of the package. The profession attracts independent thinkers and doers and learners."

So what should engineers do rather than just worry that the profession they think so much of will vanish, somehow making their own lives and work less meaningful?

His conclusion: "We must better support our profession's educational efforts and associations. We need to recognize some formal professional efforts. Just one — and not the only — is the SBE and its educational efforts.

"These do more positive good than all the apprehension in the world. One of the realities of our profession is that it requires at least as much voluntary work as any trade, maybe more."

"And mostly, we learn to 'see' the next generation, and bring them in. Not something that is easy for folks who are independent by nature."

"Albert Schweitzer wrote, 'Success is not the key to happiness. Happiness is the key to success. If you love what you are doing, you will be successful.'

"As I gain in maturity, I see that it could be that we aren't looking at this right."

Tell me what you think. E-mail [pmclane@nbmedia.com](mailto:pmclane@nbmedia.com).

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Above: Rays broadcasters **Andy Freed** (left) and **Dave Wills** (right) interview Rays' star third base prospect **Evan Longoria** on the "The Hot Stove Radio Show."

Top: **Larry McCabe**, Tampa Bay Rays Senior Director of Broadcasting and **Rich Herrera**, broadcaster and Director of Radio Operations are shown on the field during spring training.

#### NEW from COMREX:

**BRIC** TRAVERSAL SERVER & **AAC-ELD**  
Software from Fraunhofer IIS

Two new options to enhance your ACCESS:

**BRIC Traversal Server** makes IP connections a snap by automatically syncing with your buddy list.

The **AAC-ELD** option offers exceptionally high quality, low latency audio. Contact Comrex for more info!

## Impossible Remote? Nah... You've Got ACCESS!

Tampa Bay Rays' Real-World Super Hero Saves the Day!

Fans of the Tampa Bay Rays baseball team are intimately familiar with Dave Wills and Andy Freed, play-by-play announcers and hosts of "The Hot Stove Radio Show." Offering the inside track on all things Rays, the show kicked off its 2008 season with the "Countdown to Opening Day" series. While at a remote from a well-known sports bar, ACCESS showed its true worth. Two minutes before the broadcast, the ISDN line that was supposed to be used for the broadcast failed to connect. Luckily, they had the ACCESS running on Wi-Fi provided by the restaurant. The broadcast got on the air and was flawless for the entire one hour show.

ACCESS delivers mono or stereo over DSL, Cable, Wi-Fi, 3G cellular, satellite, POTS (yep, ACCESS is a full featured POTS codec and works seamlessly with Matrix, Vector and Bluebox)—plus some services you may not have even heard of. Given the challenges of the public Internet, it's no small boast to say that ACCESS will perform in real time over most available IP connections.

Contact Comrex today and find out how ACCESS can help you become a Real-World Super Hero — wherever you are!



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**COMREX**

# Digital

► Continued from page 1  
for radio engineers.

NAB had not filed a proposal with the commission as of early May. Several sources expect a request to the FCC soon asking the agency to grant broadcasters permission to increase FM digital power levels by up to 10 dB.

"People are working it," said a source close to the issue, referring to a possible filing.

Those who favor the optional power increase say it will improve a station's digital coverage to better match analog and improve receiver reception. Signal strength is an issue for FM IBOC.

Life without such an elevated power increase is causing anxiety and even doubt about the success of HD Radio, several engineers told Radio World during the NAB Show.

An engineer who works for a major



Photo by Jim Peck

Ibiquity Digital President/CEO Bob Struble

To that end, Ibiquity is working on antenna optimizations for portables, President/CEO Bob Struble and company engineers said.

**Life without such an elevated power increase is causing anxiety and even doubt about the success of HD Radio, several engineers told Radio World during the NAB Show.**

broadcast group said his company is disappointed with coverage of the FM digital signal. His company believes the HD Radio rollout "is dead" without the increase, he said.

Once a request is brought to the FCC, broadcast sources anticipate the commission would put it out on Public Notice and invite comments to encourage debate.

Most manufacturers exhibiting transmission equipment said few customers have headroom in their transmitters to go up the full 10 dB, but that even a 2 or 3 dB increase would provide a noticeable benefit in signal strength and coverage.

The elevated power issue appears to be reaching a critical point. IC manufacturers are readying updated IBOC receiver chips to be available to receiver makers for portables this fall.

Antennas in mobile/portable receivers usually are small and the resulting signal relatively weak. Boosting power level for FM IBOC will help those devices bring in a more robust signal, proponents believe.

Struble said in an interview he believes the higher power level will be approved, possibly with more experimental licenses first in addition to those already approved for testing.

## BOOST WOULD HELP BUILDING PENETRATION

A boost in FM IBOC power level will improve building penetration. That's the conclusion of Glynn Walden.

Original IBOC power levels were set conservatively to make sure interference to neighbors was almost non-existent, said Walden, one of the technology's original developers, now an engineering executive with CBS Radio.

Elevated FM IBOC power levels have been tested on stations of several groups, including CBS. He presented a paper showing test results of receiver performance inside buildings when FM IBOC power levels are raised.

## NEWS

He echoed the importance of increasing power levels, citing the inferior quality of most antennas in personal devices.

CBS has been operating with elevated power levels at KROQ(FM), Los Angeles for over a year. The Class B station has an ERP of about 56 watts of digital carrier power, he said.

The team identified 10 buildings of various construction types — from residential to office buildings — for the tests. Measurements were made with the IBOC sidebands at -20 dB and -10 dB. The CBS team, including Regional Engineer Scott Mason, used a Harris Z16HD+ for the tests.

In many locations it was not possible to receive a digital signal when the station was operating at the -20 dB level, he said.

In one building, a receiver near a second-floor window produced good reception at -20 dB, but when it was moved 30 feet into the core of the building, the receiver showed no analog or digital reception.

When the team increased digital power, the receiver delivered good digital reception even 30 feet into the building.

"As we look at the power increase [issue], it's time for broadcasters to start living in the digital world and leave the analog world behind," Walden concluded.

Manufacturers of personal devices like mobile phones won't be interested in adding analog media to digital devices, he said.

## RECEIVER TESTING IS KEY TO POWER DEBATE

John Kean said the more measurements the industry collects, the more it will know about how the next generation of HD-R receivers will behave.

NPR Labs is testing consumer radios and conducting field measurements of mobile and indoor reception, and Kean said it will continue to do so.

At present, he said, NPR Labs' coverage prediction model is providing remarkably accurate predictions of IBOC digital radio coverage, based on thousands of miles of drive-test data as well as indoor testing.

In a draft report to CPB, Kean predicted little near-term improvement in HD-R receiver performance and said performance actually may decrease thanks to pressure on designs due to price competition.

The lab has completed a series of major studies related to coverage and is working on studies of the impact of

IBOC on FM translators, using prediction models of field strength from first-, second- and third-adjacent channels.

This information will be helpful as the industry debates elevated FM IBOC power, he said.

With higher power comes the potential for increased interference to adjacent stations, he noted. This includes the effect higher digital power would have on FM subcarriers, something the International Association of Audio Information Services will look at soon, Kean said.

Radio World will have more on Kean's work in an upcoming issue.

## EFFORTS TO LOWER CONVERSION COSTS BEAR FRUIT

In what participants call an unprecedented effort, NAB, Ibiquity Digital and four transmission manufacturers developed a lower-cost way to implement the technology.

NAB spent more than \$1 million in a two-year effort to lower conversion costs for mid- and small-market stations.

The result is an "embedded exporter," one that is DSP- rather than PC-based. The result is a more reliable, smaller and less expensive unit, the manufacturers say.

Broadcast Electronics, Continental, Harris and Nautel each developed next-generation HD Radio exporters and were taking orders. The representatives said the devices, to be available later this year,

See DIGITAL, page 10 ►



Photo by Leslie Simpson

At the recent NAB show, broadcasters saw HD-R demoed in portables like this phone from Mobicom.

## DIGITAL AUDIO SWITCHING

**TITUS TECHNOLOGICAL LABORATORIES**  
**3-DRX**  
AUTOMATIC  
THREE CHANNEL DIGITAL REPEATER / ADC SWITCHER



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Automatically switches between two AES digital audio signals or a stereo analog signal.  
Analyzes digital signal errors (CRC, bit, framing, etc.) and checks for loss of audio on the digital signal. User programmable.

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**STEADY SEEKING LADY**

I am looking for a male partner (38-50) who is willing to be exclusive with me for a long term relationship. Not asking for marriage. I am of average build, dark hair, brown eyes and am an Indian female. I have a wonderful job and attend some classes a couple of nights a week. I have two kids who stay at home with me. They are very precious to me. And they are not going to be a hindrance to our dating. I have a full and busy life. Therefore, the expectation is to see each other on a steady basis, and at the same time, being flexible. precious\_me #331252

**I LOVE MUSIC. YOU LOVE ME**

I'm an indie/hipster girl who adores music and going to clubs and shows. Some of the bands that I'm into are Interpol, The Arcade Fire, Blonde Redhead, Bauhaus, The Smiths, Morrissey, etc. I'm into indie rock, electronica, punk, pretty much anything. I drink and smoke occasionally. I'm 21, 5'8", light-skin, dark brown hair/eyes. I work, am well-educated, funny, spontaneous, nice. #2215234

**HANDSOME RAKE**

Out of work leaf raker/bagger seeks whimsical beauty with un-kempt auburn or chestnut hair, cool coarse hands and a penchant for whistling. mellow\_mo, 28, #101318

**LET'S CONNECT**

Radio engineer seeks stable long distance relationship. Need to connect immediately. Everywhere I go, I see broadband internet, but I just never hook-up. I need to meet that special someone that will plug me in so I can be heard. Must be reliable, connect easily, forgive errors and adapt to change. Should come from a good family. easy\_going #101352

**SIMPLICITY HERE**

Simply put, I'm looking for a fun, casual relationship with only one person. That means one person for me and one person for you. :-) Every woman wants to feel safe with a partner, whether it's serious or not. It's key to her feeling comfortable to express her more intimate nature. I don't ask for much other than to hang out, enjoy your time with me and be available to chill.

**MR. RIGHT**

I'm actually posting this on behalf of a friend. Since she's been single she hasn't found the right guy and I'm doing this in hopes of helping her find Mr.Right. After you and I talk, if you are chosen then you will get to go on a date with her and who knows, it could be the perfect date and start of a new relationship. Looking 23 #101352

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working  
yoga, weig  
hoops) I have  
out is a #1 prior.  
person all my life a  
person but would lov.  
who will be there. My  
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with hint of red. Sorry busi.  
name.... (hee). #166778

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## Connect with Zephyr/IP: The World's Most Advanced IP Codec

The new Zephyr/IP brings an effective package of sophisticated technology to the world of IP audio codecs. Optimized for operation over the public Internet and mobile phone data services, the Z/IP delivers when others can't.



**NEW "AAC-ELD" (ADVANCED AUDIO CODING-ENHANCED LOW DELAY) CODEC:** Z/IP introduces a new codec technology invented by the experts at Fraunhofer Institute, the people who brought us MP3 and AAC. Optimized for interactive IP applications, AAC-ELD combines features from MPEG AAC-LD and the Spectral Band Replication technology used in AAC-Plus. It's the most powerful audio coding tech on Earth, offering outstanding bitrate efficiency, low delay, and support for packet loss concealment.

**NEW TELOS ACT (AGILE CONNECTION TECHNOLOGY):** Z/IP brings automatic on-the-fly bitrate adjustment to IP codecs - a first. The Z/IP constantly monitors the network and sets its bitrate to the optimum value. A dynamic adaptive receive buffer also responds automatically to network conditions, minimizing the effects of the varying bandwidth and jitter that occur on real-world networks.

**EFFECTIVE PACKET LOSS CONCEALMENT:** The Internet usually has packet loss on audio streams, often ranging up to a few percent. The new AAC-ELD codec combined with ACT can conceal this loss, making for smooth audio even with rough network conditions.

**TELOS-HOSTED Z/IP SERVER WITH DIRECTORY SERVICES:** Enables you to look up, view the status and connect to other Zephyr/IP users worldwide, even through the toughest firewalls.

**A STATE OF THE ART USER INTERFACE:** And so you don't feel like you are on a blind date, we give you all of the status information you need on a sharp-looking color LCD which shows live network statistics and trace-route maps in an easy-on-the-eyes graphical interface.

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# Digital

► Continued from page 8  
would work with any manufacturer's transmitter.

The word "embedded" refers to Ibiquity intellectual property in each unit.

Each exporter can be upgraded via USB rather than a CD drive.

The manufacturers said at a press conference the effort resulted in a savings of some \$10,000 off a digital system for a typical FM conversion package, which up until now, we're reported, can range from approximately \$75,000 to \$150,000 depending on several factors.

The overall discount for every station (NAB member and non-member alike) will fluctuate between manufacturers. Some might be \$10,000, others might be more or less. NAB believes that the NAB-member discount will account for about \$1,500 of the overall reduction.

"It's cheaper, better and will allow more people to convert," Struble said in an interview.

The NAB HD Radio Technology Task Force oversaw the effort. Steve Newberry, vice chair of the NAB Radio Board and president/CEO of Commonwealth Broadcasting, said the group decided to work with manufacturers and Ibiquity to develop a more cost-effective version. The exporter is the second-most expensive piece of equipment in the IBOC air chain after the exciter, officials said.

One small-market broadcaster in the audience at the press conference said sta-

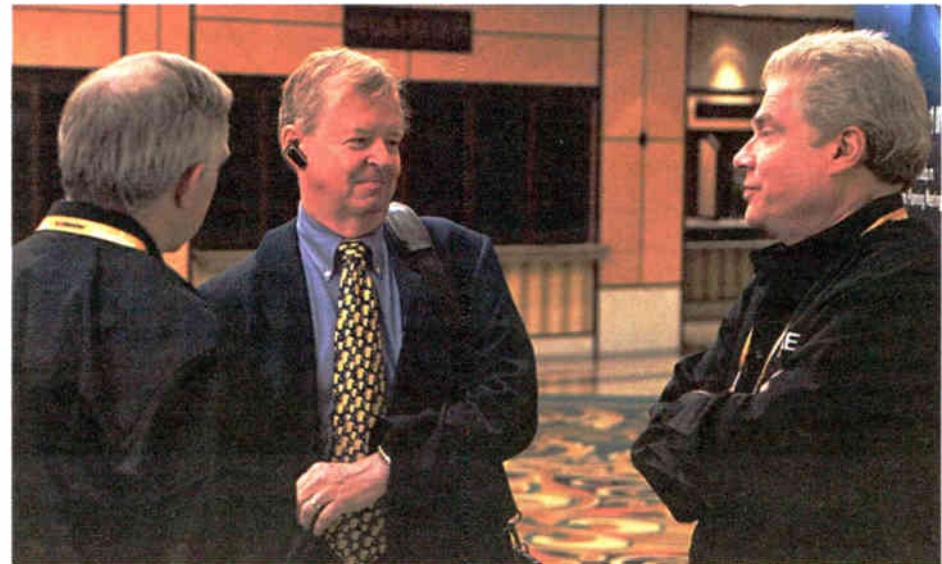


HD Digital Radio Alliance Executive Vice President Diane Warren

tions had been waiting for such an announcement, though there were no conversion announcements from small-market broadcasters citing the initiative immediately after the show.

## LICENSE INCENTIVES, FINANCING AVAILABLE

Engineers and others at the convention told RW that a more affordable exporter alone will probably not spur stations with tight finances to convert to HD-R.



NAB's Lynn Claudio and John Marino greet CBS Radio's Glynn Walden, center, outside the NRSC meeting.

Photo by Jim Peck



**Armstrong Transmitter X-1000B**  
**1KW HD Radio ready AM Transmitter**

Built with dual hot-swappable 600 Watt RF modules capable of 150% modulation, X-1000B can bring that major market sound to your radio station. Engineered with the latest technological innovations, X-1000B offers high reliability, built-in redundancy, and it is HD Radio ready.

Best of all, our customers tell us that the money they save running the X-1000B pays for itself with savings in electricity and

maintenance costs over an older transmitter...and as a bonus they get exceptional reliability and that major market sound for free.

But, don't take our word for it. Talk to our customers already on-the-air with the X-1000B. Call or email for a users list and decide for yourself why owning this transmitter is a no-brainer.



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HD Radio is a registered trademark of Ibiquity Digital Corporation.

Automotive products from Alpine, Dual and JVC featured iTunes tagging.

Similarly, iTunes tagging-equipped receivers from JBL, Polk and Sony were on display.

## WARREN: TEACH CONSUMERS TO ASK FOR HD-R

Stations transmitting digital signals have a major role in reaching out to consumers about HD Radio, Diane Warren told engineers.

"It's our job to get consumers to buy HD Radio. It's our hope that it won't take too long before HD Radio is in all radios," the HD Digital Radio Alliance executive vice president told attendees in a keynote to the Broadcast Engineering Conference.

Noting that the alliance is in its third year, Warren said, "We hope that we've made some progress" in the rollout. "We've got a lot of work still to do."

Some 70 million radios are sold in the

However, taken with other incentives, it may do the trick.

To that end, Ibiquity is offering broadcasters a licensing incentive through June 30. License any number of stations by that date and the Dec. 31 conversion deadline is waived.

The main channel audio fee for each station is \$15,000 through June 30. After June 30, the price of a license for a main HD-R channel increases to \$25,000.

Financing also is now available for the Ibiquity broadcaster license fee from National City Media Finance. According to its flyer, monthly payment options are available for between 12 months to 60 months to include transmitters and "other station technology and other related costs" related to a conversion.

## IBIQUITY BOOTH PACKS PRODUCTS IN

Ibiquity exhibited at the NAB Show, after not having a booth last year, when it opted for an event sponsorship.

Sources said the company felt there's so much going on with HD-R products, it needed a dedicated presence on the show floor.

Broadcasters could see many of the receivers that had been displayed in Ibiquity's booth at CES this winter, such as the football-shaped "iLuv" by LG.

Some 60 products were on display.

Demos of advanced applications included portable IBOC receivers, MSN Direct and conditional access.

U.S. each year, she said. More than 6 million are aftermarket radios and the alliance is working to make sure these devices have HD Radio capability.

In the auto world, some 18 million new cars are sold in the country each year, she continued. The alliance has commitments from 13 automakers to place HD-R in a total of 69 models.

Since CE retailers do not have "radio departments" per se, she said, "We need to teach consumers to ask for HD Radio." That includes making sure content on multicast channels is compelling, and preparing data for iTunes tagging.

An attendee noted a Best Buy video that helps retailers in the DTV transition and asked if similar aid is available for radio. Warren didn't address the possibility of a retailer training video but said radio needs "to continue to push and move it," referring to HD Radio.

## IBOC STANDARD REVISED

The National Radio Systems Committee adopted an updated version of its IBOC standard, approving NRSC-5-B. The standard most recently had been updated in 2005.

The Digital Radio Broadcasting Subcommittee, co-chaired by Andy Laird, vice president and chief technology officer of the Journal Broadcast Group, and Mike Bergman, vice president for new digital technology at Kenwood USA, adopted the changes.

See DIGITAL, page 12 ▶

# Wireless Broadband Internet Remotes



*"The first time out with the Tieline was a brilliantly simple experience for everyone involved. For lack of a better phrase, the codec just worked."*

- Christian Vang  
Chief Engineer  
Clear Channel St. Louis



*"The codecs sounded great. My management was very, very impressed with the demos"*

- Grady Jeffreys,  
Technical Manager,  
Mackay Communications



*"The remote was a spectacular success, in no small part thanks to the flawless sound which the Tieline G3 provided over the public Internet"*

- Mike Rabey  
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# New Delivery Options Offer More Choice

by Paul Kaminski

**LAS VEGAS** Internet in your BMW. Digital television on your phone. Video on your satellite radio. Welcome to digital life in the 21st century, where choices, content and distribution methods seem to increase by the hour.

CNET Editor at Large Brian Cooley believes the technology pushing consumers and providers can be broken into four groups: movies online; in-hand technology; in-car technology; and digital radio.

Digital delivery of online video means more than the obsolescence of video stores. For example, Cooley said, sites like Hulu, an online video demand service, have developed a promotional model that rivals the familiar one of ads between program elements on TV.

"You cannot escape the value of people telling other people about a show and directly linking them to it. It's an enormous trend called social bookmarking and it's one that [content providers and producers] need to be very aware of," he said during a session on cool gadgets and hot content.

## Mobile

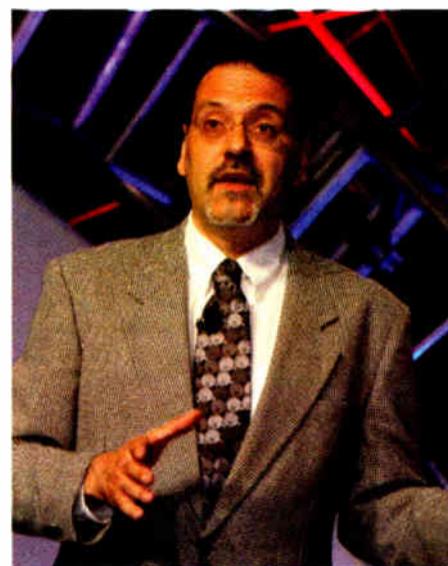
Mobile platforms like cell phones are not just for sending text messages and making calls. In 2007, Cooley said, music phones outsold all MP3 music players combined.

"What's out there as a media player in

volume? It's phones, not iPods. And the biggest manufacturer of [FM] radios in the world by far is Nokia, with 240 million handsets a year."

Cooley said phones with navigation, video and Internet connectivity will begin to outsell basic voice and text cell phones as people discover these capabilities.

**Cooley said radio has a great opportunity that can be taken by other devices if radio doesn't provide richer traffic data.**



What's out there as a media player in volume? It's phones, not iPods,' Brian Cooley said.

to let station and listener transact.

He gave an example of a listener with an HD Radio docked to an iPod-capable unit, which would alert the user that the iTune-tagged song was available for a future download to that iPod, and then having the listener go online to download the song.

Cooley also mentioned conditional access, the ability to control who listens to radio content by requiring an unlock code.

Also, HD Radio will enable richer local traffic data than what has been available in the past, according to proponents. IBOC enables overlaid data on a navigation system or scrolling text messages on an HD-R-equipped radio, which Cooley called a better way to serve local audiences than is available now.

Cooley said radio has a great opportunity with such services but it can be seized by other devices if radio doesn't provide richer traffic data.

A version of this story appeared in the NAB Daily News. © NAB.

smaller. Local radio needs to grow its share of the pie," he said.

In a recent study, the Consumer Electronics Association asked respondents what CE gift they would most like to receive. Most said an MP3 player; nobody said they wanted an AM/FM tuner or clock radio, he said.

Radio is becoming irrelevant and must find a way to reinvent itself and think beyond getting tuners in all portable audio devices, he says.

Radio needs to become a service provider for portable media players so listeners can customize what they want to hear on their device.

In a session during the Broadcast Engineering Conference, Wilson said radio's current, inefficient frequency allocation would need to be re-worked to permit such customization. He said the industry should collocate channels and use single-frequency networks to make more efficient use of spectrum.

He expects resistance from the FCC and broadcasters about such a frequency re-allocation, but said radio needs to adapt to changing times to survive.

Although he has worked as an engineer for NAB and now CEA, Wilson also now is a broadcast owner. He has two Class A FMs in Buxton, N.C. He won his frequencies in Auction 37 last year and asked the FCC to approve them as all-digital frequencies but was turned down, he said.

Though it's unlikely the radio spectrum will be re-allocated, Wilson raised valid points about radio's future, said one observer.

But an NAB spokesman said the frequency re-packing idea "is interesting and thought-provoking, but not realistic in today's world."

## Digital

► Continued from page 10

The most important tweak is the incorporation of a new FM mask that IBIQUITY submitted to the FCC in July 2006. The change, adding a "gentle skirt" to the bottom of the mask at the edge of the digital sidebands, will make it easier for manufacturers to comply and offer cost-effective transmission equipment.

The change does not affect audio quality, Bergman said in an interview.

Another change allows an extra two frequency partitions to be used in extended hybrid mode. This brings the potential for FM IBOC up to a full 150 kbps, according to Bergman.

**Radio is becoming irrelevant and must find a way to reinvent itself.**

— Dave Wilson

The group also updated its citations of the IBIQUITY reference documents because some of these have been updated. The overarching goal is to make the document easier to read and more consistent "terminology-wise," sources said, especially concerning language regarding advanced data applications such as program-associated data.

The document will be available to the public through the NRSC Web site following a final procedural review.

### WILSON CALLS FOR DRAMATIC CHANGES TO RADIO

CEA's Dave Wilson predicts a dim future for analog radio and says the medium must go digital.

Mass media, once limited to radio, TV and print, now share the advertising pie with cable, the Internet and satellite radio, among others, he said.

"The pie is larger but radio's share is

**The Leslie Report**

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Are you in Leslie's loop?  
Are you in Leslie's loop?

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Time flies when you're having fun!

1,000!

Hard to believe, but we passed the ~~500~~ studio mark recently.

We're told that it's a major milestone, but we prefer to call it  
a good start.

In fact, our clients have made Axia the **fastest growing console company** in radio. To you, we say "thanks" for your trust and enthusiasm. And to those of you who aren't yet clients: we're ready when you are.

Okay, back to work now. (Consoles don't build themselves, you know.)



[www.AxiaAudio.com](http://www.AxiaAudio.com)



# NewsWatch

► Continued from page 2

homes. We reported at the time the ARRL opposed the rules as created, citing interference concerns.

The AARL sued the agency, saying the rules were not enough to prevent harmful interference to ham frequencies.

The FCC had no comment on the April decision.

## Report: Martin Review Heats Up

**WASHINGTON** The probe into how FCC Chairman Martin is running the agency is heating up and Martin may be called before Congress in June.

That's according to the Washington Post, which reported that hearings on findings by a subcommittee on oversight and investigations have been proposed for this month. It cited a committee staff memo.

"The bottom line is that the FCC process appears broken and most of the blame appears to rest with Chairman Martin," stated House Commerce and Energy Committee staffers in a memo to Chairman John Dingell, D-Mich., and Rep. Bart Stupak, D-Mich., the chair of the subcommittee.

Neither the FCC nor the committee would comment other than to confirm no hearings had been slated as of early May, according to the account.

The probe began in December after Martin's fellow commissioners complained that relevant information was kept from them until just before votes at monthly meetings. The Post reported that according to the memo, more than 30 current and former FCC employees have been interviewed, along with telecom lobbyists and private citizens — the first indication that the investigation has turned up material to support complaints against the chairman.

Martin has defended how he runs the agency and made moves to make the process more transparent; in April he announced items will be publicized three weeks before a vote at the public monthly meeting.

## CCR: Localism Proposals Not in Public Interest

**SAN ANTONIO, Texas** "Does it make sense ... for a bureaucrat in Washington to tell a station manager thousands of miles away in Bismarck, N.D., how to run his or her radio station?"

Andy Levin, executive vice president of law and government affairs and chief legal officer for Clear Channel, asked that question rhetorically in the broadcaster's comments filed to the FCC on localism.

Clear Channel told the commission that the agency's proposed mandates in the proceeding are neither necessary nor in the public interest. The owner also challenged

the constitutionality of the proposal.

"Not only is government management of content unnecessary, but it puts the First Amendment rights of broadcasters squarely at risk. Local broadcasters are in the best position by far to determine which programming to put on the air in their own communities, not a federal government agency with no knowledge or ties to the listeners there."

## News Roundup

**iLUV:** New York-based manufacturer iLuv has introduced two HD Radio tabletop units, the i168 and i169. The latter includes an iPod dock. Both are available online from the company and at JC Penny, Electronics Expo and J&R Music.

**VIERO:** Clear Channel lost a Texas lawsuit that centers around its Viero revenue management system. A jury awarded a Dallas company \$66 million in a patent infringement case, the San Antonio Express-News reported.

**DEVA:** Bulgarian broadcast equipment manufacturer Deva Broadcast Ltd. has signed a license with Ibiquity Digital to manufacture HD Radio professional receivers and monitors. Deva's product line includes low- and medium-power transmitters, RDS/RBDS encoders and decoders, mod monitors and remote controls. It will develop, build and market HD Radio broadcast AM and FM monitors and professional receivers. Deva's Todor Ivanov said the company has bud-

geted \$600,000 for investment in development of HD Radio products.

**FM TOOL:** The FCC's Media Bureau has developed a computer program for FM radio applicants. The Allotment Channel Finder is now available to the public on the Audio Division's Web site. It's designed to determine whether a Class A FM channel is available at a proposed transmitter site and whether a Class A operating from the site would place a minimum field strength of 70 dB<sub>u</sub> over the principal community to be served. A search does not guarantee the availability of a channel at a specific location.

**AGs:** The chief legal advisers to Maryland, Connecticut, Ohio and Washington state have urged FCC Chairman Martin to block the satellite merger. The attorneys general say the anticompetitive results of such a deal would be higher prices and diminished quality of service. The letter is similar to an earlier one signed by 10 state AGs.

**'PUBLIC' REVISED:** The FCC has revised "The Public and Broadcasting." The document originated in the 1970s, designed to educate the public about the commission. The agency reminds stations they must keep a printed copy of the document in their public files. Find it at [www.fcc.gov/mb/audio](http://www.fcc.gov/mb/audio).

"Broadcast Information Specialists" will answer questions from the public about how to become involved in the commission's processes. Inquiries would be answered via e-mail to [radioinfo@fcc.gov](mailto:radioinfo@fcc.gov).

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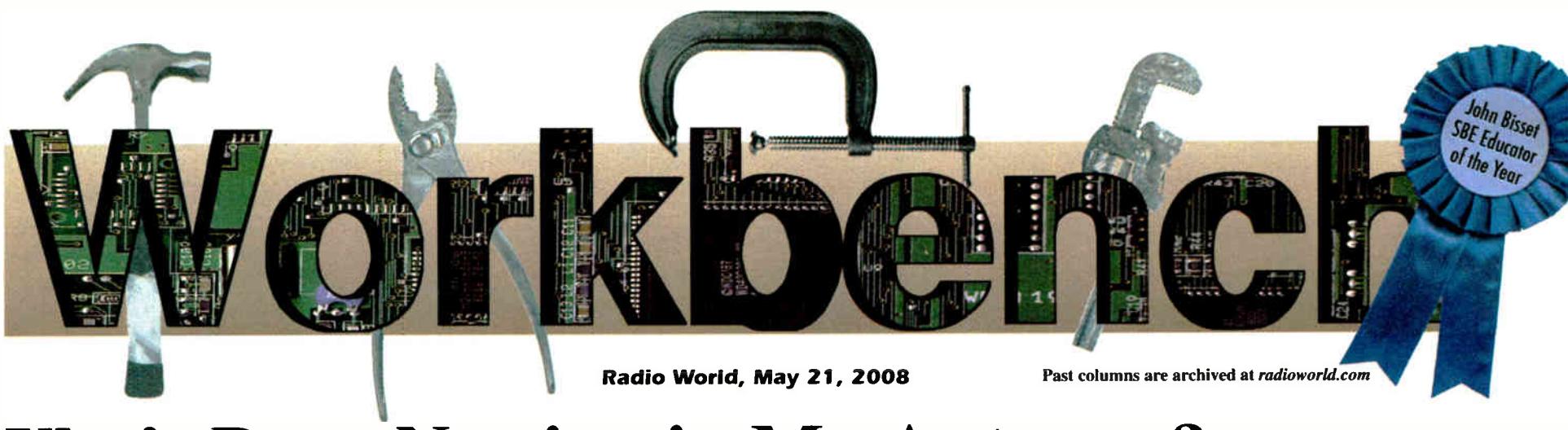


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World Radio History



Radio World, May 21, 2008

Past columns are archived at [radioworld.com](http://radioworld.com)

## Who's Been Nesting in My Antenna?

by John Bisset

Joe Jarjoara is engineering manager for the stations owned by Quantum Communications of Cape Cod. Last winter, Joe inspected one of his sites to investigate what appeared to be something nesting in one of his antenna bays.

Figs. 1 and 2 reveal that what looked from the ground like nest material actually was a portion of the fiberglass radome. Fig. 2 shows the view from the top, with a portion of the radome completely gone.

The day before, freak thunderstorms had moved through the area. The culprit became clear.

He forwarded his photos to Angela Gillespie of Shively Labs, the antenna manufacturer, to get their assessment that lightning did indeed cause the damage. This became his final supporting document. Now, armed with a printout of the weather forecast, his pictures and a letter from the manufacturer, Joe was ready for an insurance claim. Joe's preparation made for speedy processing of the claim.

His experience underscores the need to keep that digi-



Fig. 1: Things are not always as they appear from down on the ground.

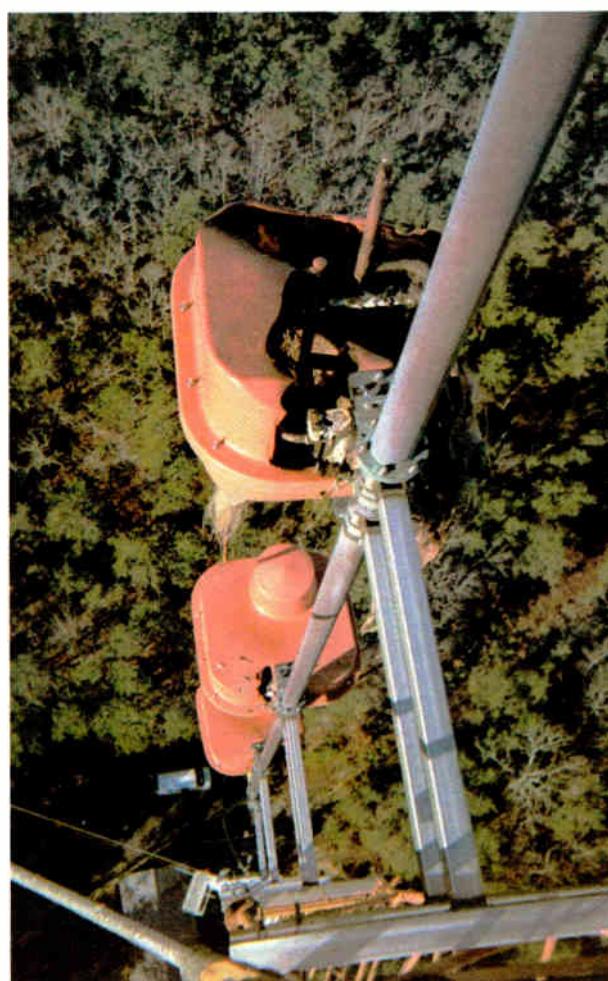


Fig. 2: Lightning melted this radome.

tal camera handy, especially as storms roll through. Many times we're in such a hurry to get a problem corrected that the thought of documenting the damage before it is repaired never enters our mind.

With a camera in your hands, photos of claim damage are hard to dispute.

★ ★ ★

Energy Transformation Systems of Fremont, Calif., is a producer of baluns and other devices for audio/video, telco and data applications. ETS has introduced a brushed stainless wall-plate version of its InstaSnake, as seen in Fig. 3.

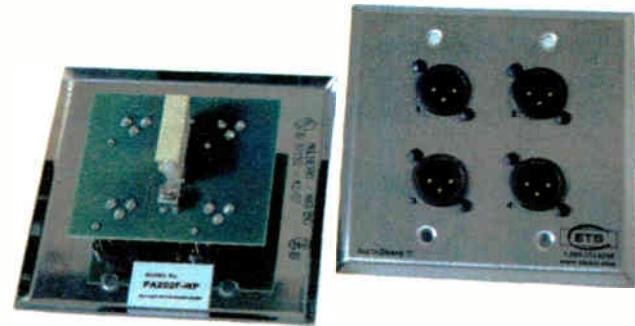


Fig. 3: ETS now offers CAT-5 mic snake cabling wallplates

A pair of these U.S.-made passive units will send up to four audio signals over a single run of CAT-5, -5E, or -6 cable. InstaSnake has been tested to 1,900 feet over CAT-5, using low-impedance dynamic microphones.

Information can be found at the ETS Web site, [www.etslan.com](http://www.etslan.com).

★ ★ ★

Edd Monskie, vice president of engineering for Hall Communications, writes that he and his staff are in the middle of building a 700-foot tower in central Florida.

As with almost any part of the state, there are designated "wetlands" close to the tower. (They are so designated by the Southwest Florida Water Management District or SWFWMD, commonly known as "swiftness.")

In placing the tower, the team ended up rotating guy points from their original locations in order to miss the wetlands.

But this still put a wetland area between the tower base and one set of guy anchors. The crew could not plow or construct any type of roadway across the wetland for vehicles or people to cross. But somehow, the tower team had to get the guy cables across the wetlands during construction.

See WETLAND, page 18 ►

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**FEATURES**

# Wetland

► Continued from page 16

Their first thought was to buy chest waders. They took two steps into the water and were up to the middle of their chests.

(This method also did not take into account that a six-foot alligator lives in that wetland area. The crew can hear him every morning and has seen him floating about.)

The guys still had to get across. That's when one of the crew found a solution. An avid bow hunter, he had his compound bow with him on site, so he tied a fishing line (60-pound test) to an arrow.

The first attempt with an arrow resulted in a broken fishing line and an arrow lost in the wetland. But on the second attempt, he was able to shoot the line

about 40 yards across the swamp to the other side. The crew then used the fishing line to pull a rope across the swamp.

Using a combination of the rope and winches, the heavy guy cables were brought across the wetland to begin the tower erection.

Edd Monskie can be reached at [emonskie@hallradio.com](mailto:emonskie@hallradio.com).

★ ★ ★

Tom Norman is a senior engineer with Burst Video in Colorado. He writes that Winston Hawkins' note about using a rack shelf upside down to aid in installing or removing equipment (*Workbench*, April 9) is a winner.

Tom has used another technique that may be handy even if you have an assistant around.

Immediately below any given piece of equipment will typically be rack screw holes that can be freed up. Install screws immediately below the gear, with about 3/8-inch of the thread showing. This affords a secure temporary platform on which to rest a piece of gear during removal.

You can wrestle it with a little less concern if the side opposite the one you are working on is nominally secure, resting on the protruding rack bolt. Nevertheless, Tom adds that he's had gear slip off the screw on the side he was not handling, creating a bit of excitement. Winston's solution completely avoids this problem.

Tom can be reached at [tomn@burstvideo.com](mailto:tomn@burstvideo.com).

Submit *Workbench* ideas to [jbisset@bdcast.com](mailto:jbisset@bdcast.com).

# Training: Online and On Demand

**SBE's Education Committee Plans a Program of Reasonably Priced Online Courses For Engineers**

by W.C. Alexander

A regular contributor to *Radio World*, the author writes here in his role as chairman of the SBE Education Committee.

Over the years, I have often been asked, "How does one get into broadcast engineering?" Certainly the question came more often in years past than it does today, but still, people do ask.

The underlying question is really, "What is the educational path into broadcast engineering?" That's a question that doesn't have an easy or direct answer.

When many of us in the senior ranks of broadcast engineering got into the business, a number of schools did offer broadcast engineering specific curricula.

An employer could hire a graduate from one of these programs with some comfort level that the graduate would have a certain amount of trade-specific knowledge, a starting point for real-world training. A lot of folks built their careers that way, starting off with some educational credentials and an FCC First Phone and building their knowledge and skills on the job.

Things are much different today.

**Single source**

For one thing, how does one define the term "broadcast engineer"?

What does a broadcast engineer do? What skills are required? If anything, the

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## HD Fi

Grass Valley, Calif., is home to many broadcast industry companies, working on both HD Radio and HDTV.

Dave Hershberger saw this sign and wondered if proliferation of HD gear has indeed been sufficient to support the small repair shop he'd discovered on McCourtney Road.

"When I was out there taking pictures of the guy's sign, he wandered out to talk to me," Hershberger told RW.

"I explained what I was doing. He said that people often stop by and ask him if he fixes HDTVs. He says no: HD stands for Harley Davidson."

(Reminds us of the time we saw a big sign for WOOD and slowed the car to look for the radio station, only to realize we were in front of a lumber yard.)

*E-mail your radio project or other photos to*

scope of knowledge for a broadcast engineer has gotten broader, encompassing everything from analog audio/video to digital audio/video, IT, networks, microwave/satellite communications, all things RF, towers, HVAC, plumbing, electrical ... the list goes on and on.

So how does one train for all that?

With so few broadcast engineering-specific educational paths out there, those wishing to pursue a career in this business often come our way with a much narrower pedigree, with education in IT or electronics, occasionally coming from the military with good but narrowly-focused training.

It's up to the employer and the fledgling broadcast engineer to further his or her education and training to produce the sort of well-rounded, well-trained individual that we need.

For many years, there has been no single source where such an individual could get all the piecemeal training required, and that's still the case. The options were/are factory schools and training on specific equipment and occasional offerings by the SBE, NAB and other entities.

Virtually all of these have been worthwhile offerings — time and effort well spent in rounding out one's pedigree and knowledge base — but finding many of these opportunities has been hit or miss.

The SBE wants to change all that. We want to serve our membership and the broadcast engineering community at large by proving a single source of educational opportunities in topics/areas that radio and television engineers need.

Through its Ennes Workshops, RF Safety Training, Leader Skills and other efforts (including events at national, regional and local conferences), we already have a good start and foundation.

But we realize it's not enough. There is still a great deal out there for which there is no convenient source of education and training.

#### Infrastructure

For most of the past year, the SBE Education Committee has been working on a new program that will offer reasonably priced, on-demand online educational courses to broadcast engineers.

#### 1 Here



*Radio World* at radioworld@nbmedia.com

At present, we are working on getting the underlying infrastructure for this program in place, and we anticipate having the first courses available this summer.

Our first course offerings will be from materials we already have on hand, educational materials from committee members and others who have in the past hosted or taught educational seminars or classes.

As we pick up speed, we want to broaden the field. We are seeking those in the broadcast engineering community who would be willing to offer some of their time and efforts in creating, editing and reviewing courses in anything and everything broadcast engineering but primarily focusing on areas where working broadcast engineers need training now.

Those who would be willing to help in this effort are encouraged to contact

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the SBE.

We also need to hear from broadcast engineers as to what training they want and need. We will be conducting a survey that will help us determine the topics on which we should focus. But beyond that, we would love to hear directly from broadcast engineers. Those responses and ideas will drive our educational efforts as we go forward.

Clearly, replenishing the ranks of broadcast engineers requires our industry to "grow our own." The way to do that is through education that is topically relevant, convenient and priced right.

The SBE recognizes this, and we intend to do our part to provide those educational opportunities.

*Cris Alexander, CPBE/AMD/DRB, is director of engineering for Crawford Broadcasting.*

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## MILE STONES

# Collins 20V Was a Joy to Maintain

*Compared to Other 1 kW Transmitters, These Might Have Been Overbuilt But They Were Great to Operate*

by Charles S. Fitch

*Milestones* is a series of occasional articles about important or memorable technologies and products that influenced today's radio broadcast industry. Read past articles at [radioworld.com](http://radioworld.com).

My first job out of the army in May 1970 was as chief engineer of a small 1,000 watt full-timer in Hilo, Hawaii.

I was living the fantasy depicted by WKRP: an involved audience, limited competition, AM radio dominance, great new music coming down the pipeline from landmark artists, talented people on a tiny staff. On air, who could ask for anything more?

The "summer of love" might have passed elsewhere, but here life meant surf, sun, skin ... a paradise found. F. Scott Fitzgerald could have written a novel about us and our hedonistic lifestyle.

On the tech side, only the arrogance and intoxication of youth could make one decide that the *entire* station needed to be rebuilt.

The sagacity of age allows one to realize that you don't touch what's right but focus primarily on what's wrong.

## Muscle

I've always loved RF and so the transmitter site was my priority.

My enthusiasm for "improvement" must have found resonance with ownership, as they approved the acquisition of a used twin to match the existing Collins 20V-2 main transmitter.

After an endless number of overnights, we had a matched pair of alternate main 20Vs ready for service.

KHLO was on 850 kHz and it was the only station I've encountered that had two antenna exceptions. The first was for a drastically reduced radiator of about 170 feet on 850, the other was a reduced ground screen made up of a limited number of short radials.

The self-supporting tower originally had been taller and located on a rock island in the bay adjacent to the hotel district near the beautiful Queen Liliuokalani Gardens.

When the city wanted to spruce up the area, it ordered the tower to move. A helicopter transported the sections to its new home a few miles down the coast, the tidal area of a tropical fish farm (ground conductivity about 5,000 siemens!) on the ocean.

Things went well until the heavy bottom section, too challenging for the helicopter, got to swinging and the pilot dropped it in the bay.

Voilà! KHLO had an instantly shorter tower.

(Incidentally, the tower was iron, not galvanized steel. Eventually, the moisture and the salt got it. Rusted away, the stick collapsed — probably more accurately, it crumbled — in high winds in the 90s. At present, KHLO and two other AMs share a tower on the other side of Hilo.)

The emergence of the radials in tidal salt gave the station an extraordinary, intense signal along the coastal sections of the Big Island and over water towards the other islands and the mainland. QSLs from the West Coast were constant.

The FCC accepted the new truncated tower and only 30 or so short radials.



Fig. 1: Manufacturer's plate on Collins 20V-3 serial number 101, owned by Fred Hoffmann, K5OG. It served KSIX(AM), Corpus Christi, Texas for many years and was retired around 2003. Hoffmann said the station offered it to him lest it be sent to a dump.

els to give access to controls and slender recessed lamps to illuminate the meter bridge.

To be competitive, the design engineers had to meet a price and then allot their budget to the areas they deemed most important. My judgment is that the Collins staff directed the money to RF and support circuitry.

The entire transmitter has an elegant simplicity to it.

On the RF side in models 1 and 2, a 6AU6 oscillator buffered by a 6SJ7 couples to an 807 driver exciting parallel 4-400 final output tubes similar to the Bauer 707 less the RF drive sense relay.

The output tuning was a "pi" network followed by an "L" section without a second harmonic trap. Capacitors tuned the network.

One unique feature was the arc suppressor circuit. The design concept was to avoid transmitter damage if RF arcing or lightning induction current was present in the output or the antenna. When any exceptional sort of current was detected flowing at the transmitter output, the arc suppression relay would activate and shut off high voltage.

This circuit worked; I've seen it go through its paces in several lightning storms. But it required that only RF be present on the output in normal operation. Even a tiny bit of leakage to/from the AC of tower lighting could hold the relay open.

On the audio/modulator side, the 20V-2 had only two gain stages.

A push-pull pair of 6SJ7s were directly coupled into a See COLLINS, page 22 ▶



Fig. 2: Chuck Rippel, WA4HHG, provided the photos of his restored Collins 20V-2 seen in Figs. 2-4. It's been retuned and operates crystal-controlled on 1.885 MHz in the 160 meter band. The unit is for sale; contact info is in the photo credit at right.



Fig. 3

The Big Island is the biggest mountain in the world, thanks to its roots five miles down at the bottom of the Pacific plus the equatorial bulge, which adds to its height from the center of the earth.

Mauna Kea, top of the island, is also the biggest rock in the world with almost negative ground conductivity. OK, that's hyperbole, but inland, inverse to our coastal coverage, our signal was challenged.

Our Collin 20Vs were the muscle that made our signal dominate.

## West Point gray

Three versions of the 20V were manufactured.

According to the Collins instruction books, the 20V-1 (properly called the 20V) and the 20V-2 had the old "West Point gray color with General Grant styling" of pre-1961 or so. The 20V-3 was in the newer style, in a sort of beige.

Of the 1 kW transmitters we've been discussing in these *Milestone* columns, the Collins probably was the most physically overbuilt, deluxe of them all.

The styling grew out of the previous model 550A-1 and was a subdued Art Deco, with two small door pan-

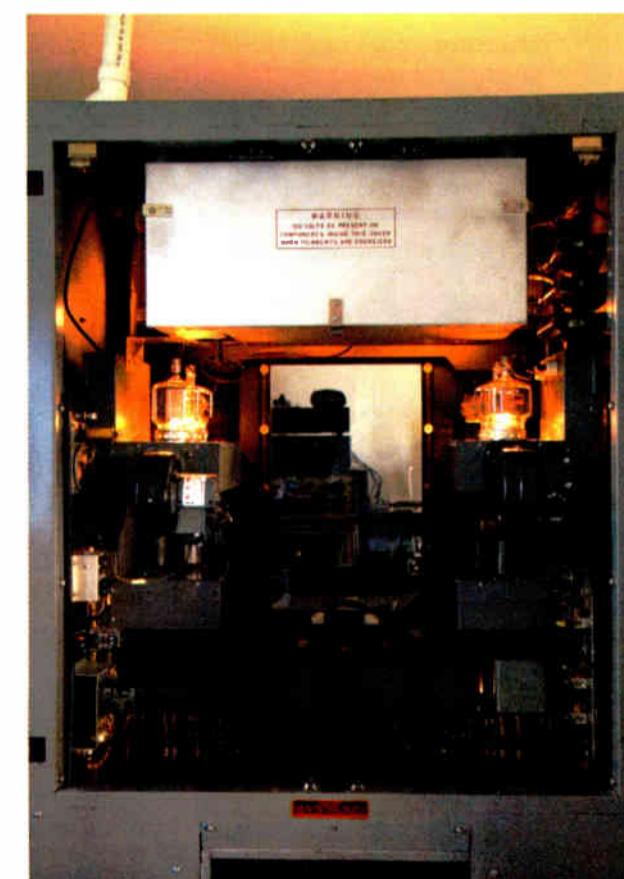


Fig. 4

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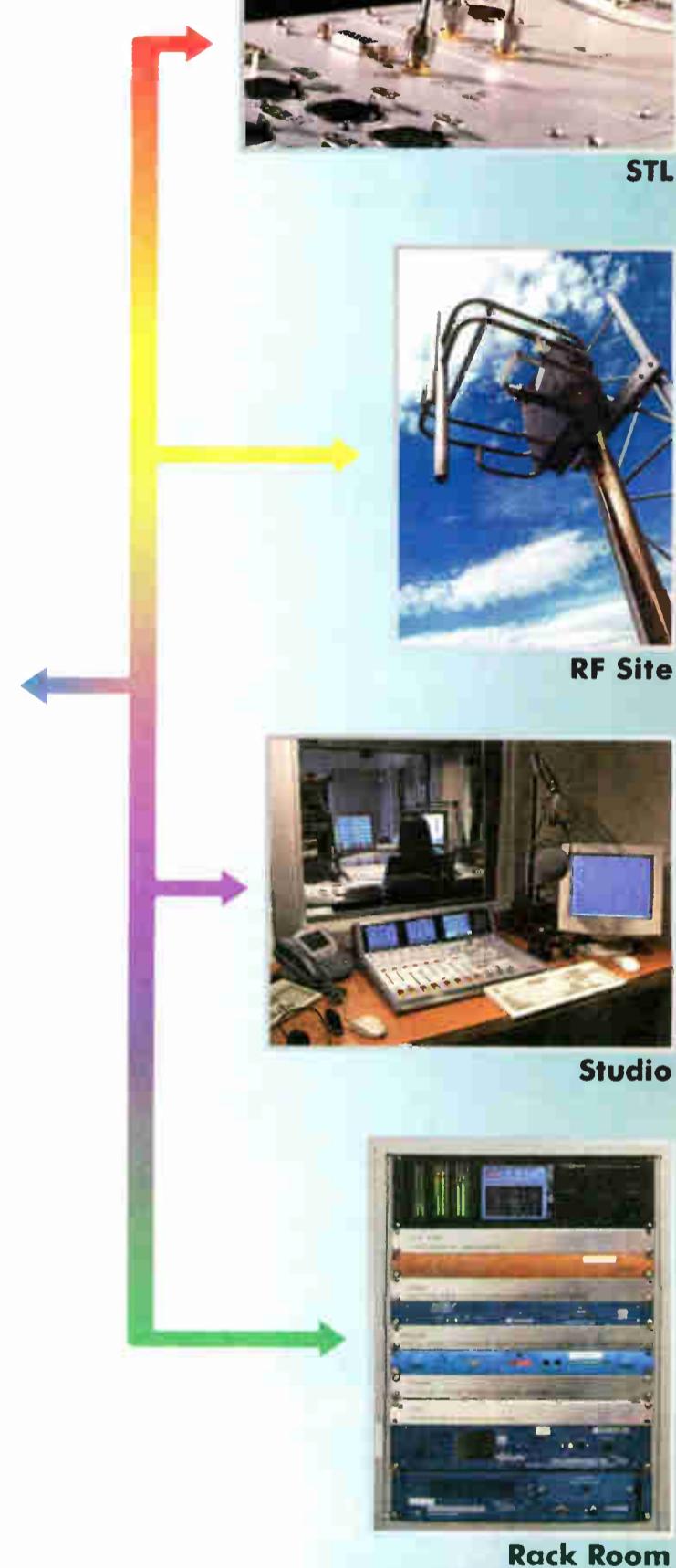
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# Broadcasters Face Shared Challenges

*Meeting of North American Media Organizations Focuses on Mobile Media and Digital's Promise*

by John M. Lyons

The 2008 NABA Annual General Meeting and Conference was held at CNN headquarters in Atlanta recently and featured sessions and panels with industry leaders on subjects from WiMax and white spaces to digital radio innovations.

Founded in 1972, the North American Broadcasters Association is a member of the World Broadcasting Unions, the coordinating body for broadcasting unions that represent broadcast networks across the globe. NABA has status as a non-governmental organization at the International Telecommunication Union Radiocommunication Sector (ITU-R) and the World Intellectual Property Organization (WIPO).

Full members include National Public Radio, CBS, Sirius Satellite Radio, CBC-Radio Canada, the Corporation for Public Broadcasting and several other major media organizations. The NABA Secretariat office is based in Toronto, Canada.

## On demand

The discussion "Broadcasters and the Mobile Frontier — The Push Towards Hand-Held" was moderated by Dan Hsieh of MTC Services, with panelists Sterling Davis, vice president of engineering for Cox Broadcasting; Mark Aitken, director of advanced technology for Sinclair Broadcast Group; and Joseph Bates, vice president of eBrain Market Research.

Using an analogy that will no doubt be painful to some readers of Radio World, Aitken stated, "Local broadcasters cannot afford to become the AM radio of the 21st century." He said they need to do their job to keep up with the competition from other media sources.

Bates said there will be over 300 mil-

lion portable video devices in existence in 2008; broadcasters need to be able to get their broadcasts to these devices. Consumers expect these products to work

expect to see or hear it if they were at home.

Also of interest was "Digital Radio Innovations," moderated by Mike Starling, vice president and chief technology officer of National Public Radio and executive director of NPR Labs; with panelists Axel Leblois, executive director



Photo by John Lyons

Panelists Joseph Bates and Mark Aitken discuss broadcasters and their role in the evolving mobile frontier.

when they want them to work, with content that the user wants to have.

Sterling Davis said, "HDTV and [HD] Radio give the consumer more options and the broadcasters must take advantage of these options."

The panelists agreed that the mobile consumer wants more local content and generally want it at the time they would

of the Global Initiative for Inclusive ICTs; Tony Caruso, director of new broadcast technologies for Canadian Broadcast Corp.; and Mike Bergman, vice president of new digital technologies at Kenwood USA.

"Digital is here and there is no turning back," Caruso said.

"We need to develop getting the product

from the input to the output with perceived high audio quality (PERC) at a very high level. Audio codecs are 'the solution for audio transport,' with SW56 and ISDN near the end of life and no longer being supported by the telco carriers.

"From collection of material through distribution, we need to be able to produce the highest-quality product whether mono, stereo or multicast, over whatever device that the broadcast audience receives it."

## Media and disabilities

Leblois spoke of the United Nations Convention on the Rights of Persons with Disabilities for ICTs, or information and communication technologies. It was

## Local broadcasters

**cannot afford to become the AM radio of the 21st century.**

— Mark Aitken

adopted in late 2006 at the Eighth Universal Convention on Human Rights and has been signed by 125 countries. Notably absent are the United States, Russia, Venezuela, Middle East nations, parts of Africa and others, he said.

There are 650 million persons with some form of disability, whether visual impairment, mobility, hearing or other;

See NABA, page 25 ►

ground connection point creating a small voltage drop that was just perfect to drive an amp with a sample of the modulation envelope. (See schematic in online version of this *Milestones* article at [radioworld.com](http://radioworld.com).)

The sound of that speaker was comforting as you entered or exited the transmitter building. You knew all was well.

An overnight maintenance chore unique to my ocean site was polishing the transmitter. Caustic salt air could cause deterioration, so these were the only transmitters where I had to "Simonize" the exposed metal surfaces with automobile wax.

After such an overnight (and especially if I intended to stay up all day — ah, the stamina of youth), I would walk across the street to the beach park, strip and swim in the surf as the sun came up.

I may have been reckless, freestyle in the riptide alone, but I certainly was awake when I finished — though I had to be careful not to let the incoming tide carry away my clothes.

The Collins 20Vs were overbuilt, generally, but quality throughout and a joy to operate and maintain.

Charles S. Fitch, W2IPI, is a registered professional consultant engineer, member of the AFCCE, senior member of the SBE, lifetime CPBE with AMD, licensed electrical contractor, former station owner and former director of engineering of WTIC(TV) in Hartford, Conn., and WHSH(TV) in Marlborough, Mass. ■

# Collins

► Continued from page 20  
push-pull pair of 4-400s. Push-pull circuits intrinsically cancel second (or even) harmonics and even lower distortion was accomplished by liberal audio feedback from samples derived from the plates of the 4-400s fed back to the grids of the 6SJ7s.

The Bauer 707 transmitter with a similar circuit used 8 dB of feedback. The 20V probably had closer to 12 dB.

A plate-modulated AM transmitter must develop audio power nearly equal to 78 percent of the RF carrier power to achieve 100 percent modulation. A gain in level between +10 dBm input into 600 ohms (0.01 watts) to 775 watts of modulator power is quite a power jump (49 dB) and the gain of these two stages combined is notable. Feedback was needed not only for fidelity but also for stability.

Another deluxe feature: The 20V had circuit breakers as opposed to fuses for both the filament and plate branches of the input power.

## Radio surfing

The transmitter had a cabinet fan plus a separate squirrel cage blower on the RF and audio main chassis with their 4-400s. These three blowers made this rig sound powerful even when it was just cooling down.

The 20V-1 was local control only;

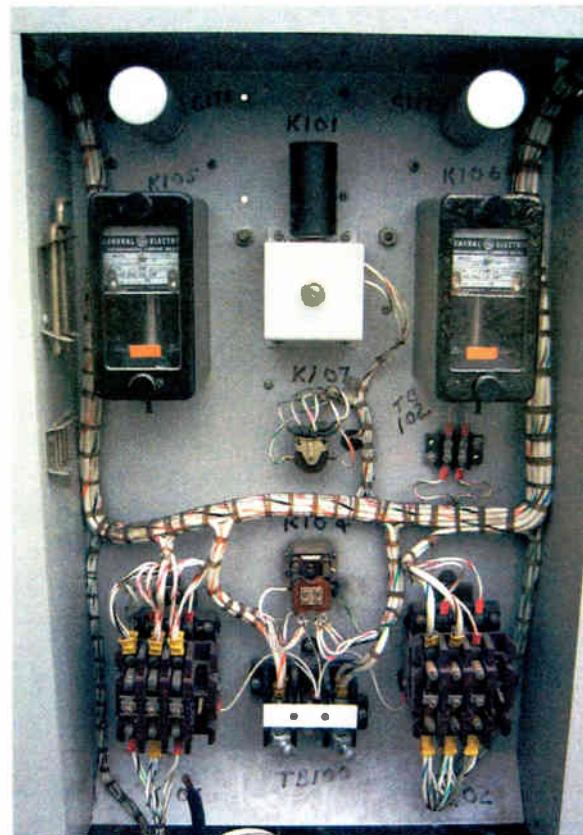


Fig. 5: Wiring harness in the 20V-3 owned by Fred Hoffmann.

most subsequent 20V-2 and -3 units had provision for remote control, though documentation was sketchy. I had fully modified mine for remote control. Another difference: the 20V-3 had solid-state rectifiers throughout.

My 20Vs had a circuit feature not seen in other rigs of this vintage, an audio tap. Down in the current return path of the RF finals a resistor was installed at the



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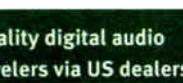
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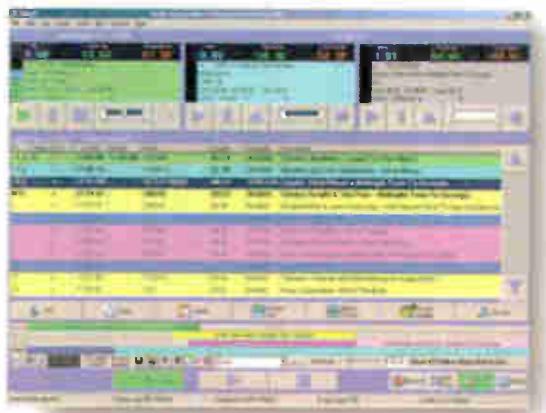
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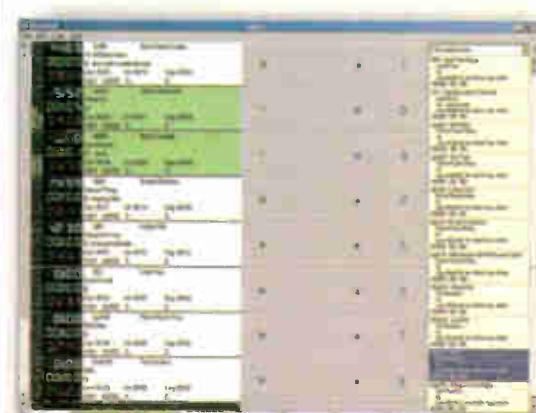
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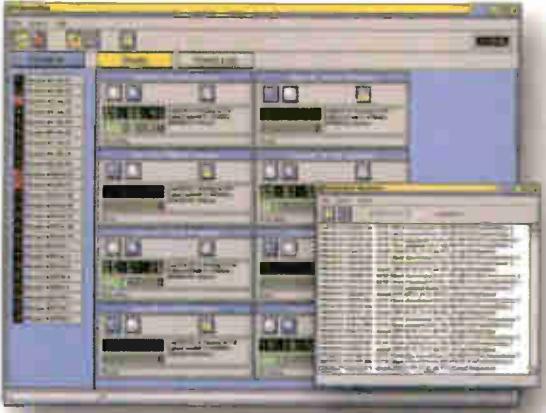
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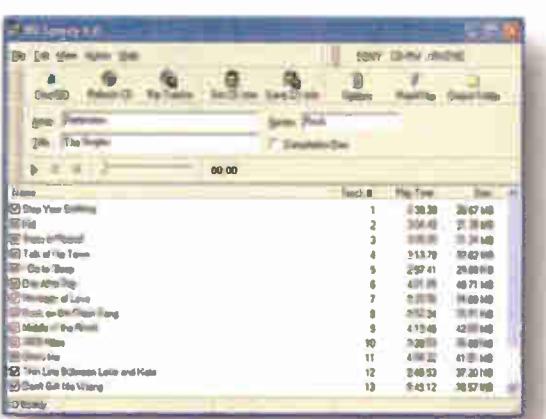
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# Lead, Follow or Get Out of the Way

**Radio Must Reinvent Itself Yet Again,  
Or Risk Irrelevance to Future Audiences**

For a long time broadcasters have assumed that the digital revolution would take hold in their industry when they, the broadcasters, wanted it to.

Under that assumption, much effort and expense have gone into the planning, standardization and implementation of digital technologies in recent years.

If broadcasters were candid, most would acknowledge that at least part of this strategy was formed with an intent to leverage and extend their legacy positions into the digital environment, maxi-

mizing the advantage of the incumbent while minimizing the opportunity for new challengers.

While some would argue that this was improper and manipulative, given broadcasters' use of the public resource of scarce spectrum, others might counter that it is merely an application of the fundamental human notion of survival writ — or rather, coded — large.

That issue has been largely mooted, however, as it is becoming clear that the digital radio transition may not follow the

carefully crafted rules that analog captains have drawn up for it.

As the record industry has learned, the move to digital technology may be revolutionary in the truest sense, with a newly empowered populace dethroning former masters in the process.

## Infinite number of monkeys

The mechanisms for this sea change in radio are several.

First, there is the simple issue regarding the volume of new competitors. As we discussed last time, it is only a matter of time before online and on-air radio services reach relative parity in availability.

This vast enlargement of the level part

## The Big Picture

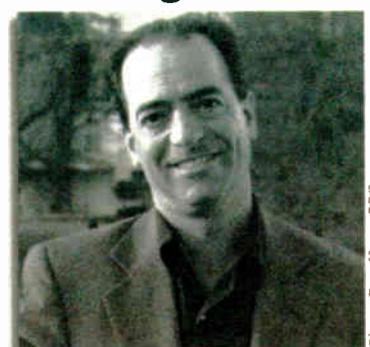


Photo: Gary Hayes, BBC

**by Skip Pizzi**

of the playing field will put all radio services into competition on the merit of their content, and not allow over-the-air radio to rest on its laurels of broader access.

Another change engendered by new technologies is what can be called the "Digital Trickle-down Theory."

It states that as new technologies proliferate, they gradually allow consumers to do more things for themselves that previously were the province of professionals and dedicated service providers.

This principle applies broadly, and has forced those who would remain professionals in their domains to continue to improve their services, in order to remain ahead of the ever-rising consumer DIY curve. Radio is not immune to this phe-

**Author Daniel Pink considers the impact on American society of what he calls the three As: Abundance, Asia and Automation.**

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nomenon, as it too is being forced to provide something that consumers can't do for themselves using new digital systems.

So radio broadcasters are doubly challenged, on both the supply and demand sides of the equation: New media present a glut of suppliers, while new technologies reduce demand for traditional radio services (and lower the perceived value consumers formerly ascribed to them).

There are ways to forestall the direst consequences of this shift, however.

### Room at the top

A look at recent history shows that human intelligence still trumps the machine in most cases.

For example, when the first digital drum machine was introduced by Linn Electronics in the early 1980s, there was rampant fear in the music industry that drummers would be put out of business, since now anyone could play the drums with the push of a few buttons on a little console.

In fact, what happened was just the opposite, as generally the only operators who put the device to very good use were *drummers* themselves, thus gaining a new tool that broadened their palette and value. This pattern has been oft repeated.

In radio today, the functionality of See REINVENT, page 25 ►

# Reinvent

► Continued from page 24

computer-based automation that broadcasters have used successfully over the last decade or more is now finding its way into consumer media players and "adaptive" online radio services. But can such systems truly match the capabilities of a well-programmed radio station?

Some might say yes (and it's getting better all the time), while others would say close enough, given the lack of, or substantial reduction in, commercials.

Still others would acknowledge that something is missing, either because of the robotic selections, sequences and segues, or the lack of real continuity (i.e., no DJs, newscasts, time/weather/traffic, etc.).

The key lies in the range of these answers.

Trickle-down is just what it implies: down, as in diluted or dumbed down; but it's a long path. This implies that there is always some room at the top for the most adept professionals to stretch their skills and remain relevant — at least for some portion of the consumer market.

## New thinking

Such augmentation of current expertise is just what author and former Al Gore speechwriter Daniel Pink talks about in his celebrated new book, "A Whole New Mind."

Among many other thought-provoking topics in the work, he considers the impact on American society of what he calls the three As: Abundance, Asia and Automation.

By "Abundance" he refers to the fast and massive consumption habits of Americans, which imply that if you build it, we will come — typically in droves. Successful new stuff is often *enormously* successful, and relative quickly.

And yet the American public is also quite fickle, putting a lot of those new purchases on the shelf fairly soon (but often not getting rid of them entirely; Pink cites the fact that the self-storage industry in the U.S. now grosses more annually than the American movie business).

So differentiating oneself is more important than ever to capture initial consumer interest, followed by even more critical effort toward stimulating the retention of perceived value.

"Asia" is Pink's label for outsourcing, by which he concludes that if it doesn't really matter where a product or process is produced, it will increasingly *not* be done in the United States, since it's cheaper to do it elsewhere.

Along the same lines, if a process isn't that difficult to perform (especially if it's largely repetitive), it can be done by "Automation" instead of human workers.

Pink's conclusion from all three of these trends is that imaginative thinking — what he calls "right-brain functions" — are required to avoid a negative outcome.

If you use creative thinking to develop products, services or value-adds that are difficult to replicate, outsource or automate, you will remain successful in today's global marketplace.

Thus as consumers and other new professional entrants attempt to supplant the role of traditional radio, those in the radio business need to think creatively to differentiate themselves in new ways, and apply their considerable experience and existing infrastructure to develop well-

crafted new services that cannot be easily matched by less skilled operators or automated processes.

This shouldn't be that hard, but it does require some new and well-focused effort. It could also be fun, particularly for those with a competitive spirit, who find that a challenge drives them to be their best.

Perhaps the hardest part is the need to develop imagination — part of our mental muscle that we may have let get a little soft over the years as the industry has matured. Maybe it's time to get back to the intellectual gym and train for a comeback.

*Skip Pizzi is contributing editor of Radio World.*

*Comment on this or any article for our Readers Forum section. Send e-mail to radioworld@nbmedia.com.*

# NABA

► Continued from page 22 and this affects about 2 billion people because one to two others are generally needed to help each disabled person at some time in their lives.

"There are opportunities to implement steps for digital radio to include the disabled and enhance their lives," Leblois said. Approximately 1.5 billion TVs, 2.4 billion radios and 2.7 billion cell phone are in use worldwide, he said, and digital radio already supports most of the application mandates of the convention. Leblois sees a window of opportunity for digital radio in this arena through 2011.

For information about the global initia-

tive see [www.g3ict.com](http://www.g3ict.com).

During the annual meeting, NABA named its new president.

Leonardo Ramos Mateos, director of high technology for Grupo Televisa Mexico, took the reins from Ray Carnovale, vice president and chief technology officer of CBC/Radio Canada.

Mike Starling of NPR was named to another term as vice president, and Terry Snazel, vice president of technology for Bell ExpressVu in Canada, was appointed a VP.

Eddie Fritts, former president/CEO of the National Association of Broadcasters, was honored with NABA's International Achievement Award.

*The author is assistant vice president and director of broadcast communications for The Durst Organization.*

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## FEATURES

# CCNY

► Continued from page 1

Clear Channel now has the most separate stations under one roof of any facility in New York to date.

Prior to the move, the company had three studio locations plus a sales office in New York City, and two studio locations in New Jersey. The new office also oversees the company's operations on Long Island, most of which are based in Patchogue.

Major players in the creation of Clear Channel's new Manhattan home included Meridian Design, interior architects; Luckett & Farley, project managers; Lehr Construction Corp., general contractors; and TechNet, systems integrators.

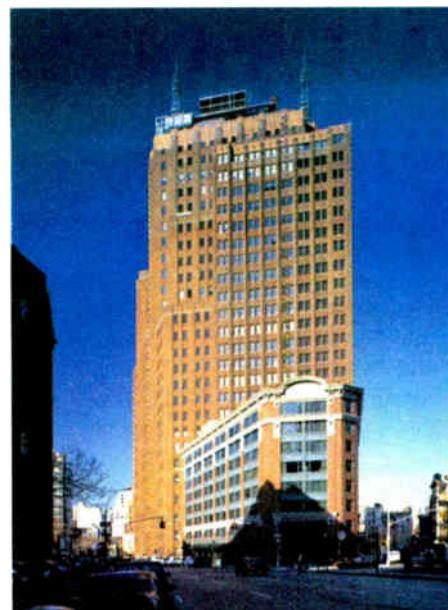
Josh Hadden, director of engineering and IT for Clear Channel's New York operations, said when construction was at its peak, 350 people were on site daily.

Key suppliers of equipment for the project included Sierra Automated Systems for consoles and system routing; Omnidax for studio furniture; Aphex, mic processors; Telos, phone systems; and Symetrix/AirTools, profanity delays. The cluster uses RCS NexGen Digital automation, and SnapStream Enterprise software for recording and searching TV content.

Studio mics are Audio-Technica 4033s or Electro-Voice RE27s depending on the station's format, said Hadden.

#### **Family resemblance**

Hadden cited several reasons for Clear Channel's decision to relocate to the AT&T building.



There are two identical air studios for each of the five FM stations: WAXQ, WLTW, WHTZ, WKTU and WWPR.

Three of the stations have an additional three studios: two production and one mixing. There also are three shared commercial production studios, three voice-track studios, three imaging studios and one for the Creative Services Group. The facility also houses Clear Channel Online Music and Radio.

The third floor is home to the engineering shop as well as master control, which contains 65 racks of equipment.

"There were few surprises or unexpected challenges during the project. The biggest difficulty came after demolition and involved the columns in the building," said Hadden.

"The AT&T building was built over

**It is enormously satisfying when you overhear people saying 'Wow' and 'This really looks like a radio station,' when you hear the jocks doing great radio on day one and see the studio clusters start to take on their own feel and personalities.**

— Josh Hadden

"All of our space in New York City and New Jersey is leased, including the new building. AT&T was chosen because it was in Manhattan and convenient to almost all the subway lines and mass transit gateways in New York."

"Most people take mass transit to work here, so this was a crucial consideration. The AT&T building was also chosen because it had some awesome ground floor space that we are turning into a 200+ seat theatre, and since the building is a telecom hotel, there is a tremendous amount of connectivity and resiliency there already for us."

"It didn't hurt that there are also two enormous tower structures with unobstructed views of Empire and Times Square for [links to] our transmitters."

The New York Observer in 2006 reported that Clear Channel had signed a 15-year lease with prices ranging from \$35 to \$43 per square foot over the course of that term.

The complex consists of 29 studios.

the years in five stages, so columns were irregular and offset from one part of the building to the next." He said the architects worked miracles to hide many of the irregularities and create a seamless environment.

There were also delays in getting the 2 MW generator commissioned — a result of purchasing a "used" set that was already in place and had 10 hours service on it. This necessitated having to do the first full online test after three of the stations were already in. Hadden said the generator was not operable into the live load until that time, so the first test of the generator "was truly a 'game-day' test. That was a very stressful event at 2:30 a.m."

The architects were faced with psychological issues along with physical ones during the project.

Billy Hallisky, vice president of Meridian Design, said, "What had been five separate companies with distinct personalities needed to be brought together to create a blended family."



A studio at WWPR(FM), Power 105.1.



A plethora of servers.

"As you walk through the complex, there's 'Z-100 land' and 'Lite-FM land,' and all these areas bear a family resemblance to one another, but subtle changes in finishing materials and other details give them a distinct identity."

He said it was important that no station be shown favoritism by being given more space or a better view. To facilitate cross-pollination of creative ideas, there are common lounges and areas where staff from different stations can gather.

#### **The mothership lands**

Although this is not a "green" design per se, Meridian used recycled, green and earth-friendly products where possible.

Hallisky pointed to the studio lights as an example: "Studio lighting usually involves fluorescent work lights and dimmable incandescent lights for daily operations. We were able to source next-generation dimmable compact fluorescents. With the number of studios in play, the energy savings is enormous."

The project also was a challenge for David Holland, a designer for Omnidax, which provided the custom studio furniture for the cluster.

"Josh wanted something innovative and sexy, and he wanted Corian surfaces," Holland said. "We envisioned a

modular design based on a futuristic mothership with up to three guest pods. The whole thing looks like it is floating." Omnidax presented 3-D renderings of the furniture to Hadden, who gave an enthusiastic thumbs up.

Holland emphasized that the studio furniture has to be functional as well. The modular concept helps to future-proof the project; pods can be added or removed as needed if there are format changes. A deal of thought went into the ergonomics of the furniture, he said, with access to wiring troughs and rack gear for engineers, and frequently used items in easy reach of operators.

Holland said working with Corian in the five-foot depths the project required was a challenge but planners met with the supplier's representatives and figured out most of the issues.

A unique feature of the studio complex is a production studio set up for video as well as audio production. Hadden said the space will be used to create video and audio segments that will be uploaded to the Z-100 Web page during its morning show.

The project began with demolition in May 2007. The first station moved into the new facilities on Jan. 29, 2008. All

See CCNY, page 28 ▶

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**FEATURES**

# CCNY

► Continued from page 26  
back office operations are in place, and the move was scheduled to conclude with the WLTW relocation in early May.

**3,072**

Documentation for the project takes the form of line drawings in CAD and cable runlists in MS Excel and Access. Hadden envisions moving to a paperless documentation system.

"I'd like to sit in a studio with a laptop and call up all the relevant information by typing in a wire number. Our documentation was set up with this in mind," he said.

The Clear Channel project also is a milestone for SAS.

Howard Mullinack, director of strategic development and marketing for the manufacturer, said, "The facility uses six SAS 32KD digital router/mixer frames, giving a capacity of 3,072 x 3,072 channels." That is the largest number of cross-points for one SAS facility to date.

Hadden talked about the decision to use traditional routing vs. an IP system: "An IP infrastructure introduces a new single point of failure in the IP routing system. It also opens you up to the wide array of traffic blocking problems, both malicious and otherwise, you can encounter."

"While I have no doubt that this is the future, I'm unwilling to widely deploy it just yet."

Control rooms are equipped with Rubicon 32 consoles; station production studios have Rubicon SL24s; the three commercial production studios have SAS Rubicon SL16s and Digidesign Command8 boards; and the three imaging studios are equipped with Digidesign D-Command systems. SAS delivered 27 consoles for the Clear Channel project.

Mullinack said Clear Channel has used the programmable auxiliary pushbuttons included with the consoles for such functions as EAS, skimming and activating



Unique furniture leg design.

delay. An extra bit of logic ensures that delay only can be activated if the studio is on-air. The SAS installation also features a complete intercom system, allowing studios to communicate with each other and with master control.

A facility of this size requires extensive backup power gear. If commercial AC fails, emergency power is provided by the 2 MW generator purchased from Qwest. The generator connects to a 1,200 amp ATS, which in turn connects to a 100 KVA Toshiba UPS.

Clear Channel's main transmitter site is the Empire State Building, with full backup facilities at 4 Times Square. STLs are muxed up with request and business PRIs, Internet and WAN connectivity into an OC12, using Adtran Opti-6100s to the 24th floor "meet me room" in the AT&T building.

From there, the demuxed signals are handed off to AT&T DS3s to the transmitters. There is also fiber to feed AES signals from the studios upstairs to con-

nect with traditional 950 MHz STLs.

As the relocation part of the project winds down, Hadden reflects on what has been an intense but stimulating endeavor.

"I haven't had a vacation since February 2007. I've worked seven days a week with the notable exception of Christmas and New Year's.

"This was a tremendously exciting and challenging job, but I've also got the best group of engineers around — Henry Behring, George Marshall, Doug Irwin and Jeff Smith — whom I involved in

**We envisioned a modular design based on a futuristic mothership with up to three guest pods.**

**The whole thing looks like it is floating.**

— David Holland



Wegener Corp. said Jones Radio Networks placed a large order for Wegener iPump 6420 professional media servers and Unity 4600 professional media receivers.

The purchase augments the Jones Digital Audio Server delivery technology platform supplied by Wegener and launched early last year. The JDAS system distributes radio content to its network of affiliates; the purchase represents growth of the network, Wegener said. ...

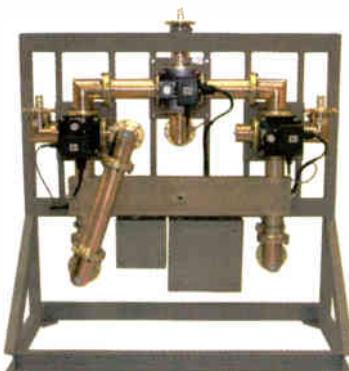
Harris Corp. delivered 13 HD Radio broadcast transmitters to American Public Media for its HD Radio broadcast initiative, targeted for completion in December.

The phased rollout also includes three HD Radio upgrades to existing Harris Z-Series analog transmitters and Harris FlexStar HD Radio broadcast products at each station for multicasting initiatives.

**MARKET PLACE**

## MYAT Updates FM Switching Combiner

Myat updated its FM switching combiner with features such as remote control, manual override and high isolation. Additionally, it combines two transmitters, routes combined power to antenna or dummy load and allows bypass with failure of one transmitter (50 percent TPO).



The company says its FM switching combiners are designed to combine, and/or switch two transmitter inputs into a combined output, or in the case of one transmitter failing, can switch the running transmitter to air.

Switching is accomplished using Myat's motorized coax switches. Switching between modes is done by applying a signal to the required terminals. The standard system includes a hybrid combiner interfaced with three coax switches. All I/Os face vertical to ease installation of interconnecting lines. Optional input and output directional couplers also are available.

For more information, contact Myat at (201) 684-0100 or visit [www.myat.com](http://www.myat.com).

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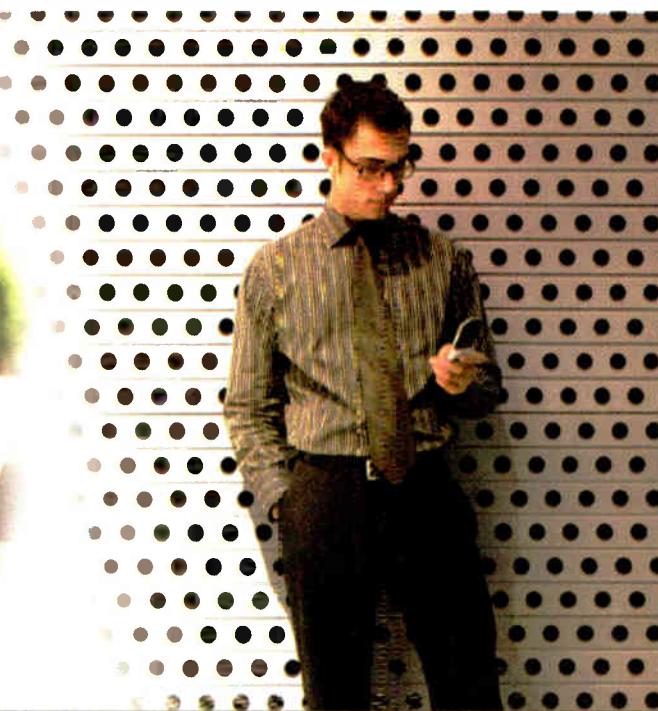
# 21st Century NTR



A wise man once said, "if the railroad people had realized they were actually in the Transportation Business they would have come to own the airlines and the trucking industry."

Today Radio must be in the Communication business in order to adapt to the 21st Century because more and more consumers are being reached outside of traditional broadcast, print and outdoor advertising. There is a generational divergence occurring in the area of perception of technology. Therefore we must recognize to the fullest extent the Net Profit potential opening to us if we are to become fully empowered to enjoy the opportunities presented.

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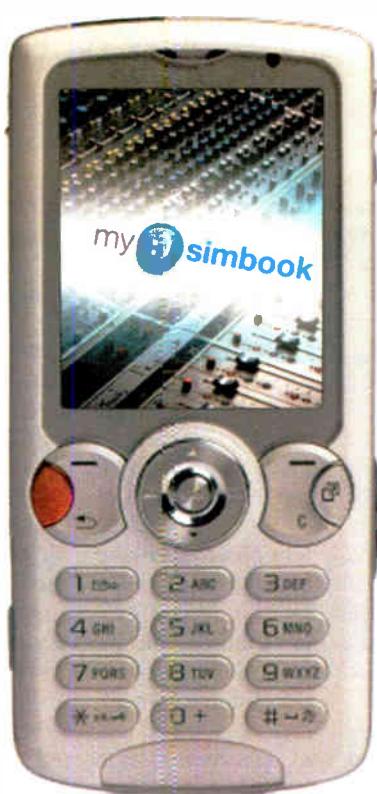


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# Opportunities for Mobile Devices Abound

**SFF Gadgets Still Have a Long Way to Go, Intel's Kevin Kahn Tells Super Session**

by Thomas R. McGinley

Everyone wants their media mobile nowadays, anywhere and anytime. Small form-factor (SFF) devices like multi-function PDAs, smartphones and iPhones have come a long way quickly.

But according to Kevin Kahn, senior fellow for Intel Corp., they still have a long way to go to become truly user-friendly for consumers.

In a Super Session during last month's NAB Show, Kahn scolded today's offerings as too limited, offering only local apps. They have a fixed and often confusing I/O and are generally unaware of their surroundings.

His vision for tomorrow's do-everything mobile devices includes a fully integrated Internet experience with interactive Web applications, voice recognition I/F, nearby device-driven I/O and location relevance, plus fully wireless sync.

## Get smarter

Harnessing these new capabilities is a work in progress and will depend on higher computing and graphics power engineered into the SFF devices.

Radio-equipped smart sensors will be needed that detect peripheral devices around them to make the user experience more adaptable, unique, enjoyable and productive. And these devices should anticipate what the user wants to do with the peripheral, whether it be a larger display, a printer or scanner, or an A/V center.

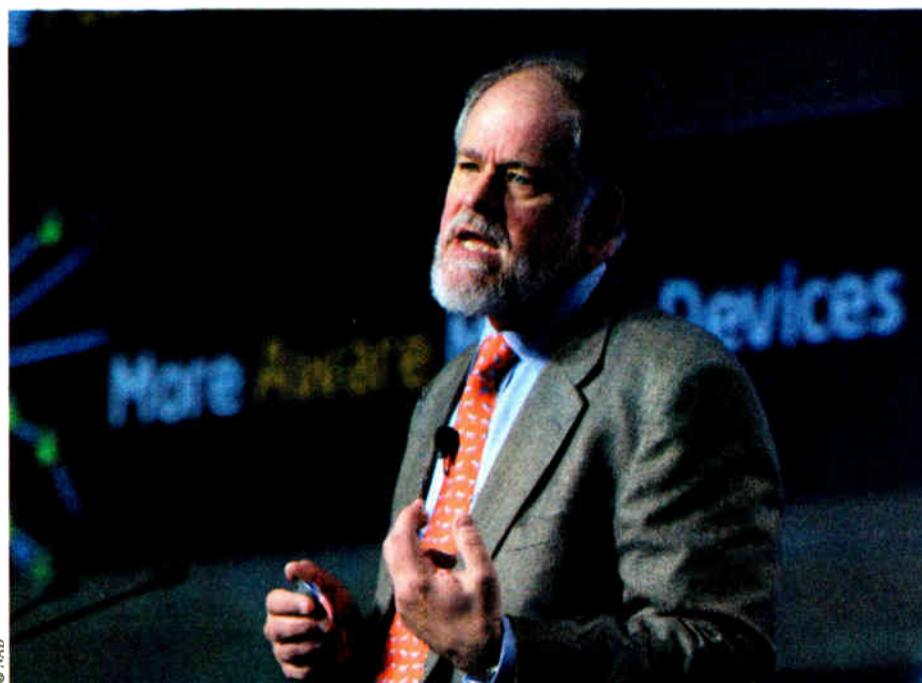
For example, Kahn suggests any full-featured SFF mobile device should be able to sense that a larger nearby video screen is available for use in a conference room, or the seatback display on an airplane.

Wires should not be necessary and auto discovery with a smart I/O would connect the two automatically after authentication. Carry Small/Live Large (CSLL) will be the mantra and new definition of mobility that will drive research and development into this realm of opportunity.

Making CSLL real will force the size of laptops even smaller while at the same time, require them and pocket devices to carry more computing power and more communicating capabilities that do not require wires and connectors.

There are simply too many wires and too many different connectors that chal-

lenge and confuse the consumer experience of personal electronic devices, he argues.



Kevin Kahn

Kahn described some of the technology challenges on which Intel is working that are needed to enable CSLL more quickly.

The new devices must integrate multi-radio functionality so that the various standards being used can be supported. Wi-Fi, 3G, WiMax and Bluetooth have their own bands and modulation schemes. Most of the progress in this arena has been driven by digital technologies, but the basic radio designs are still mostly analog and not scalable.

Intel is investigating how best to integrate automatically tuned antennas and front ends that will cover the two primary bands now used for mobile devices.

Tomorrow's radios all need to be "softer," with functionality that can be changed by a software I/O. And they also need to be "quieter" so that the RF interference they emit like the GSM cellphone "cricket chatter" is reduced. This will be important so that peripheral device sensors can work reliably.

## Mobility and DTV

In summarizing, Kahn noted that for CSLL to become reality, mobile devices need to discover any nearby larger display

or peripheral device, securely authenticate and connect to it and then communicate the video or other data required.

They also need to be able to "wake up" sleeping devices and have positional awareness.

He also noted that better industry

University of Southern California Entertainment Technology Center Executive Director David Wertheimer suggested that the industry has to focus on the consumer/user experience first.

"We need to do the careful research on what consumers really want and then make devices that deliver those needs." He suggested that watching a full-length movie on a cellphone is not all that interesting and may not be in demand.

## Success models

Gary Gannaway, CEO of WorldNow, described how WorldNow is providing video streams to millions of connected users from many sources. Just as Baskin-Robbins accelerated ice cream from two standard flavors up to 31, WorldNow is conveying much more of the video from newsroom operations to consumers using mobile devices, and not just the selected short clips seen on-air.

While most of the panelists agreed that standardization is important to enable faster adoption and growth of mobile video, Sling Media's Hirschhorn offered a counter-observation. Any hot new idea has to remain veiled in secrecy before it is launched as a product to the market. If it is truly successful, then it might be considered for standardization.

Ducey observed that new technology products must be given the chance to fail or succeed in the marketplace but then

**Kahn's vision for tomorrow's do-everything mobile devices includes a fully integrated Internet experience with interactive Web applications, voice recognition I/F, nearby device-driven I/O and location relevance, plus fully wireless sync.**

cooperation and the forging of standards on which all manufacturers can depend will be vitally important. Too many approaches are being used when innovative ideas are brought to market. More cross-company collaboration and even consolidation will be necessary, he said.

A roundtable discussion followed Kahn's presentation and was moderated by Rick Ducey, chief strategy officer of BIA Financial Network Inc.

Brandon Burgess, chairman/CEO of ION Media Networks, identified mobility as the third leg of DTV. "The under-30 crowd is using mobile video heavily," he said. Users expect their small mobile devices to offer TV programming and quality along with everything else now available over the Internet.

Jason Hirschhorn, president of Sling Media Entertainment Group, who helped launch the popular and innovative Slingbox, observed that users want to be able to use mobile video anywhere, anytime, and don't care what the source of the programming is or how it's being delivered. He thinks better device navigation schemes are needed.

Tara Maitra, vice president and general manager of programming for TiVo, noted that DVR is now being thought of as a "digital video retriever" and said that TiVo is not just for the living room anymore. "TiVo to Go" is being made to function across mobile devices.

cited a different model. Apple has had tremendous success with its proprietary closed "eco-system" that is vertically integrated, including such innovations as iTunes, iTV and the iPhone.

Consumers want to be able to use the DVD or digital movie they paid for on their mobile devices in addition to their living room entertainment centers. To transfer it into their mobile player is difficult and is limited by licensing and copying restrictions.

Hirschhorn contended that when content providers make their product inflexible and hard to use, they breed piracy. Ducey agreed and suggested this is a large hurdle the industry needs to overcome in finding a fair value/pricing relationship for content.

The panel concurred that the traditional advertising-supported model is challenged because it has become so easy to skip over embedded ads.

The discussion ended with Hirschhorn's observation that traditional businesses are structured on management and maximizing cash flow. They follow the money.

New-tech businesses are structured on innovation and they follow the consumer. When a new-tech business becomes successful and eventually traditional, it must follow both.

Tom McGinley is technical adviser and contributor to Radio World.



## WE GIVE YOU COLE

Name: Harry Cole

Profession: Attorney

Favorite station growing up: WICE, 1290 in Providence. I won the "Save Batman" contest in 1966.

Biggest court cases: Briefed and argued one side in the 1990 Metro Broadcasting case involving affirmative action in federal decision-making, and member of the briefing team on behalf of Pacifica Foundation in the 1978 "Seven Dirty Words" case, both in the U.S. Supreme Court

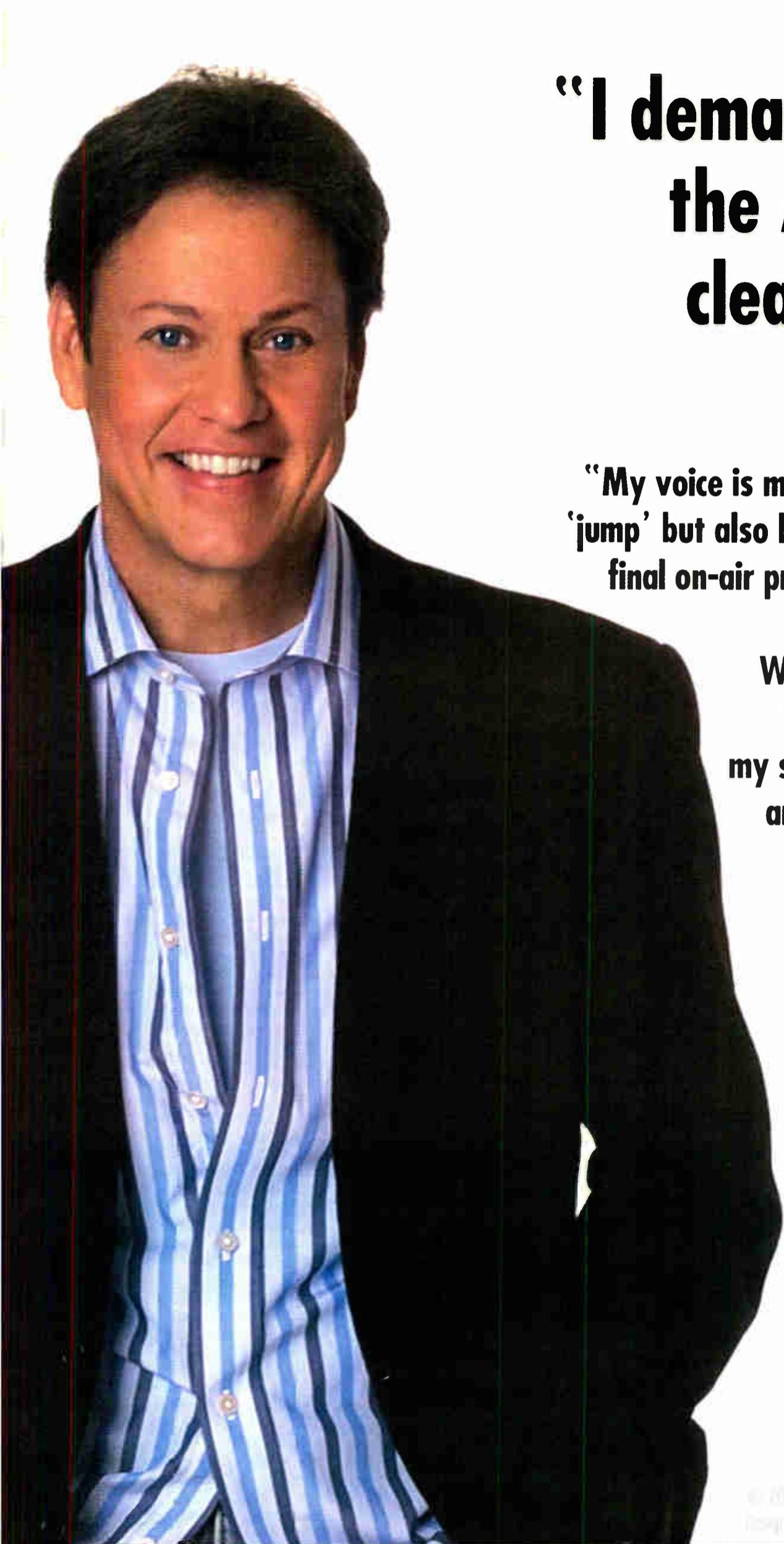
Radio experience: Member of the "Think Tank," music and TV trivia buffs who were part of Howard Stern's show on DC-101 in Washington, 1981-82. I'm mentioned in "Private Parts" but my name is misspelled

Other interests: Writing Cole's Law for RW, guitar playing, baking, crossword puzzle construction and solving

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# Station Albums Were Just for Fun



by Ken Deutsch

Remember those wacky promotional vinyl albums that rock stations used to sell or give away? While they were once just curiosities on eBay, they now rate their own Web site: [www.radiouseonly.com](http://www.radiouseonly.com).

Primarily released in the 1960s and '70s, some clearly were designed just to promote the disk jockeys, who could be seen in jokey poses on the covers. We're talking about a lot of skinny guys with skinny ties and sideburns. Other local albums were created to raise money for charity.

Whatever their contents or purpose, these collectibles represent a nostalgic snapshot of top-40 radio stations as they existed at a moment in time.

"I had an interest in records and collecting ever since I 'borrowed' my mom's 1955-1959 collection to play on my Show 'N Tell player as a kid," said Lisa Wheeler, whose vast array of these "platters" is featured on the site.

"I own over 300 different radio station compilation albums and I plan to expand from there. The records you find on our site include comedy, hits, oldies and even local bands."

## Playin' your favorites

She says trying to pick a favorite out of her collection is like choosing a favorite offspring; but Wheeler did single out certain items.

"Speaking strictly from a graphics point of view, the WPOP 1969 'Hear Here Volume II' has this incredible psychedelic colored vinyl," she said.

"The Bob Keene Big Band 'Twist to Radio' LPs are some of my favorites. The covers feature jocks doing the Twist. My big favorite is probably the KAYO(AM), Seattle LP with the deejays dancing on the Space Needle."

But the music on these albums didn't always consist of national hits.

Lisa Wheeler and samples from her collection.

"I like the 'homegrown' type albums," said Wheeler. "Post Records and Buzz Curtis' Pacer label made these incredible records with bands, some featuring singers who were only locally known then, before they went onto stardom. WAPP(FM)'s 'New York Rocks 1983' had John Bongiovi. KRST(FM), Albuquerque put out 'Enchantment' with a song by the Last Mile Ramblers and a still-unknown guitar player named Junior Brown."

**I'm one of those  
who long for the  
days of mom and  
pop radio and wish  
for the demise of  
'Evil Borg'  
companies.**

— Lisa Wheeler

Detroit-area record collector John Freist has amassed a number of these vinyl wonders, too. His collection contains Motor City albums released by WKNR(AM/FM), CKLW(AM), WDRQ(FM) and many others.

"WWWW(FM) had a 'Homegrown' album featuring a local band called the Romantics," said Freist. "They later scored a number of hits on Billboard's charts. This was a great way for the stations to give local acts exposure."

WTMA(AM), Charleston, S.C., produced a "Memories" album in 1974. It sold for the princely sum of \$3.98 plus shipping. The same album, albeit with

different cover art, was sold by other top-40 stations across the country.

According to [www.wtmamemories.com](http://www.wtmamemories.com), the inside cover of the album jacket had black and white photos of the air staff, a feature that was customized in each market. One can hear a broadcast commercial for this album at the tribute site.

Aside from station projects, individual disk jockeys such as Alan Freed in New York and Hy Lit in Philadelphia released their own albums of hits.

Such was the popularity of these top personalities that their names and likenesses were enough to ring the cash registers. Several companies pressed these albums for many stations. Big suppliers included Hollywood's Custom Fidelity and Post Records of Philadelphia.

Relatively few stations offer this sort of product today. Perhaps because it is too expensive to obtain clearance on the music, they have switched to releasing comedy bits and original songs from their morning hosts.

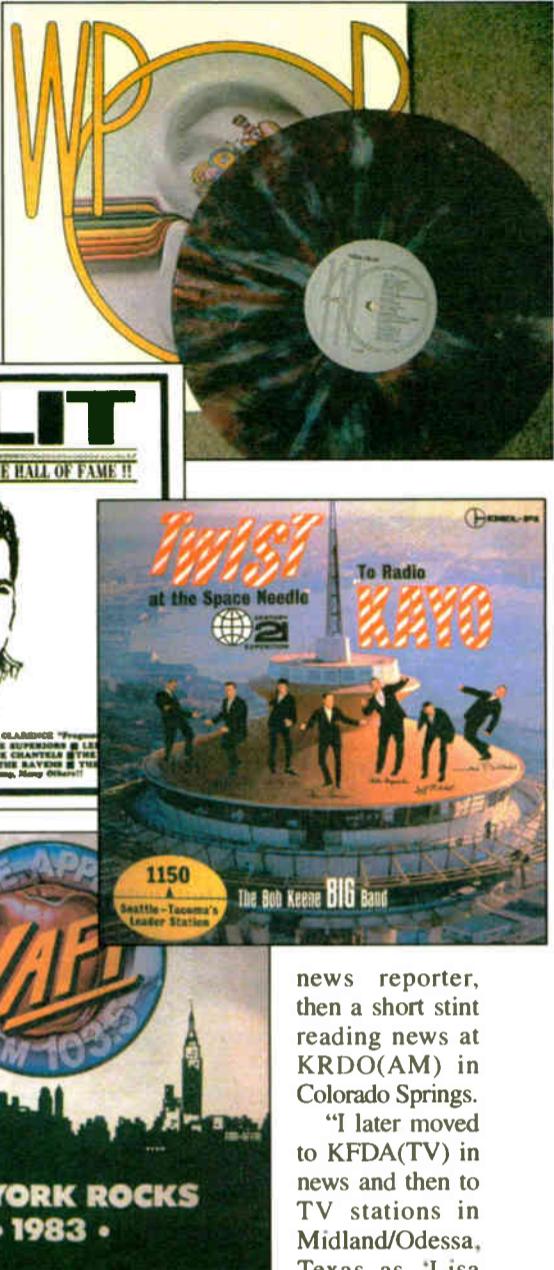
Examples are CDs from nationally syndicated Bob and Tom ([www.bobandtom.com](http://www.bobandtom.com)) and Detroit's Radio Hall of Famer Dick Purtan ([www.womc.com](http://www.womc.com)).

## Documenting radio's changes

The woman behind [www.radiouseonly.com](http://www.radiouseonly.com) doesn't seek publicity. But who is Lisa Wheeler and where did she come from?

"I got my start in 1979 at beautiful music KYNR(FM) in Pueblo, Colo., while I was in school at the University of Southern Colorado," now CSU-Pueblo, she said.

"I was 18 and working the overnight shift, changing the reel-to-reel tapes. In between Perry Como and Montavani, I would read the news and weather. That led to a job across town at KIDN(AM) as a



news reporter, then a short stint reading news at KRDO(AM) in Colorado Springs.

"I later moved to KFDA(TV) in news and then to TV stations in Midland/Odessa, Texas as 'Lisa Barker.' In 1992 I accepted a job at KLBJ(AM) as morning news anchor, then left commercial radio in 1994."

Over the last 14 years, Wheeler parlayed her radio experience into a career in media relations in Austin. But what sparked her interest in the old albums?

"I admit I'm incredibly nostalgic," she said. "I'm one of those who long for the days of mom and pop radio and wish for the demise of 'Evil Borg' companies. But I've gotten over that and accept the fact that times change and radio is a business. You move on."

Yet something keeps drawing her back into the time capsule.

"Some of these albums have pictures of control rooms with turntables and cart machines, said Wheeler.

"Apparently I am not the only one who longs for that era. The Web site is just over a year old and I've had over 1 million hits. I've gotten e-mail from former jocks and radio nostalgia types like myself. It's a nice feeling."

The business model for Wheeler's site is simple. There isn't one.

"I do it for fun," she said. "Turning it into a business would defeat the purpose."

What was your favorite station? Wheeler's Web site allows a visitor to search her station database by state. The cover art and date are provided for each album. A click on each album accesses additional pictures and a listing of the song contents.

Ken Deutsch has fond memories of his own former place of employment's "WOHO Golden Greats" album, released in 1967. Several dozen cartons of leftover copies were still stored in the station's unheated garage next to the lawnmower 20 years after the initial release date. ●



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**BROADCAST LAW REVIEW**

## Are You an 'Eligible Entity'?

*Trying to Help Minorities and Women,  
FCC Will Favor Small Businesses & New Entrants*

by Harry Cole

Picking up where it left off more than a decade ago, the Federal Communications Commission has cranked up its "diversification" machinery in an effort to bring more minorities and women into broadcast ownership ranks through a broad series of rule changes and proposals.

There's a little bit of something here for everybody, as the FCC has tried to sweeten the pot for all concerned. Whether any of its efforts will prove successful, however, is far from clear.

The new rules have not taken effect as of this writing, but they are all likely to be in place later this year. Given their scope, we can expect that they will affect most licensees in some way, so it would be a good idea to familiarize

yourself with them sooner rather than later.

### Diversity initiative

Historically, minorities and women have not been represented in ownership ranks in the same proportion as their numbers in the overall U.S. population. While the FCC may view it as desirable policy to try to change that, the Constitution generally prohibits race-based (and, to a lesser degree, gender-based) governmental policies except under certain limited circumstances not present here.

To get around that pesky constitutional problem, the FCC has taken a route favored by other governmental units facing the same question.

Rather than give preferential treatment

only to minorities and/or women, the commission has decided to accord preferences to small businesses and new entrants (dubbed "Eligible Entities"), the theory being that such entities are more likely to be constituted of minorities and/or women.

Of course, since the operative definition does not limit the term, a white Anglo-Saxon Protestant male will be able to benefit from the new rules just as much as an African-American Muslim woman, if they both meet the Eligible Entity criteria.

For purposes of the new rules, the FCC derived its definition of Eligible Entities from a similar concept used by the Small Business Administration.

Businesses are deemed to be "small" based on industry grouping (for example, radio is one such grouping, TV another) and revenue. A radio station is considered a small business if it has annual receipts of no more than \$6.5 million.

Before you start trying to figure out ways to fit into those definitions, be aware that the revenues of any parent and/or affiliate companies are also included in the calculation. And there are several "control" tests designed to ensure that any governmental benefit does in fact flow to a qualified entity.

### Relax, relax

The following summary reflects the variety of new rules adopted in the Diversity Initiatives order.

**CP extensions** — Currently, CP extensions are generally not permitted. But under the new rules, if an Eligible Entity acquires an unbuilt construction permit, it will have at least 18 months (or the remainder of the original permit term, whichever is longer) from the purchase of an expiring permit to complete the construction.

**EDP calculations** — The new rules relax the existing Equity/Debt Plus attribution rules for multiple ownership limits.

Under EDP, an entity may find itself with an attributable interest in a broadcast licensee even if it is not an owner of that licensee. That occurs when the non-owner is (a) either a significant program supplier or an attributable owner of another same-market station holder and (b) holds a 33 percent or greater equity and/or debt position in the licensee. The rule is designed to prevent the aggregation of multiple non-attributable interests in a way that could have an actual significant (but unreported) influence on licensees.

The FCC has amended that rule to allow up to 50 percent equity and/or debt interest in a small business licensee or a debt interest alone (no equity) of up to 80 percent of the asset value of a station.



These new limits will also apply when determining if a bidder in a broadcast license auction qualifies for the "new entrant" bidding credit.

**Distress sale policy** — The FCC has modified its "distressed station sale" policy.

Under the original policy, a station owner whose license had been designated for a revocation or non-renewal hearing could assign the license as long as (a) the buyer was minority-controlled and (b) the price was no more than 75 percent of the station's fair market value.

To avoid potential constitutional problems, the FCC has modified its rules so that a distressed station sale can be made to any Eligible Entity.

The practical usefulness of the distress sale policy is limited because it can't come into play unless some station's license gets designated for hearing. The commission has historically not dumped many stations into hearing, and it shows no sign of changing that.

So the number of stations that might move into the hands of Eligible Entities through that policy is likely to be extremely low.

(Of course, if that prediction were to prove inaccurate and the number turns out to be large, that would not bode well for broadcasters, since it would suggest an aggressive, enforcement-minded commission suddenly designating license renewals for hearing — not something the industry as a whole is likely to want to hear.)

**Non-discriminatory agreements** — The FCC has adopted two new rules prohibiting discrimination — on the basis of race, gender or related protected categories — in the sale of stations and in the sale of broadcast advertising time.

With respect to station sales, proposed sellers will be required to certify compliance with this rule by checking the appropriate boxes on newly designed assignment application forms.

The ban on discriminatory advertising contracts specifically prohibits certain advertising contracts that apparently have contained "No Urban/no Spanish" clauses. The new rule requires licensees to certify in their license renewal applications "that their advertising contracts do not

See DIVERSITY, page 35 ▶

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# Diversity

► Continued from page 34  
discriminate on the basis of race or gender and that such contracts contain nondiscrimination clauses."

## "Zero Tolerance" of ownership fraud

The FCC is also implementing a "Zero-Tolerance" policy to prevent ownership fraud.

Previous FCC attempts to promote minority and women ownership have been fraught by sham companies, in which the real owners are in fact neither minorities nor women. The FCC thinks that by having "zero tolerance" for such fraud, it will deter and detect any such fraud in the future.

The details are still a little sketchy about how this will be implemented — the only concrete item being a new policy of seeking to resolve ownership fraud complaints within 90 days (fast-as-lightning in terms of FCC typical actions). Good luck with that.

**The new rules relax the existing Equity/Debt Plus attribution rules for multiple ownership limits.**

It's difficult to take the self-imposed 90-day turnaround time seriously. History indicates that the factual issues surrounding possible "sham" ownership structures are notoriously difficult to sort out.

And in a number of instances (at least), the commission's conclusions seemed difficult to square with its rhetoric (for example, the FCC found one TV applicant to be "minority-controlled" even though the only minority involved in the entity had contributed a mere \$200 of the entity's \$22 million capital).

Whether a particular ownership structure constitutes fraud or good public policy often depends on the eye of the beholder.

**Divestiture flexibility** — For situations in which a merger of broadcasting companies requires divestiture of one or more stations in order to meet the FCC's multiple ownership caps, the FCC will now allow extended deadlines to divest the extra stations if the merging companies have actively solicited bids for such stations from Eligible Entities.

Merging companies getting this extension will, however, be required to actually sell the spin-off station(s) to an Eligible Entity or place the station(s) in an irrevocable trust for the sale to an Eligible Entity in order to prevent abuse of the extension process.

**Grandfathered clusters** — The FCC's rules for grandfathered station cluster sales (*i.e.*, sales of station groups that exceed the current multiple ownership caps, but that are permitted since they were in existence before the current ownership limits took effect) requires the cluster to be sold to Eligible Entities in order to keep the "grandfathering"

exemption intact.

The FCC is now modifying that rule to allow *any* buyer to retain the grandfathering *so long as* it agrees to re-sell the excess station(s) to an Eligible Entity within 12 months of the purchase.

## More to come?

In addition to the amendments which the FCC adopted, it also threw out for public comment a number of proposed changes.

The three proposals which are likely to be of most interest to radio licensees involve (a) possible sale/lease of HD Radio channels, (b) expanded AM band stations, and (c) possible conversion of TV Channels 5 and/or 6 for FM radio use.

As to the HD-R channels, the commission thinks it might be a good idea to allow FM stations operating with multi-

ple digital streams to sell or lease one or more of those streams to Eligible Entities.

On the AM expanded band side of things, as matters now stand, AM licensees with expanded band authorizations are expected to turn one of their licenses (either their expanded band license or their original, non-expanded band authorization) in after five years. The FCC is now thinking that it might make sense to allow the AM licensee to sell one of the two to an Eligible Entity, rather than turn the station off.

As to the re-purposing of Channels 5 and/or 6, don't get your hopes up. While the FCC seems bullish on the idea in its diversification order ("this proposal could yield tremendous opportunities for new entrants, and we seek comment on it"), it apparently changed its mind in short order.

The very next day after issuing the diversification order, the commission issued an order in the DTV transition proceeding in which it addressed the proposal to use TV Channels 5 and/or 6 for FM. There the FCC noted the "well-established determination that the additional opportunities for increasing FM noncommercial coverage do not outweigh the costs of eliminating Channel 6 from TV service."

And with that, the commission expressly said that it was denying the proposal. So we really aren't that optimistic that this notion will be a happening thing at any time in the foreseeable future.

*Harry Cole is a member in the law firm of Fletcher, Heald & Hildreth, P.L.C. He can be reached at cole@fhhlaw.com. Read his blog postings on regulatory developments at www.commlawblog.com.*

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"Doctor doctor, gimme the news, I got a bad case of lovin' you." "I said doctor, doctor, Mr. M.D., please tell me what's ailing me."

"Called the doctor, woke him up; he said put da lime in da coconut ..."

Radio loves songs about doctors. Why? Because physicians are central to our existence. If you're healthy, it's likely because you've got good medical care, or great genes.

You can have lots of fun with doctors on the air and that's why it's time to "play doctor" in this edition of *Promo Power*.

I begin by running the risk of giving you a dose of doctor promotions with which you may already be familiar. Hopefully you can add a new twist.

Let's begin with "Vasectomy for Valentines!" It may be "cutting edge" but the promotion has been around for a few decades. If it hasn't been done in your market for awhile, it's bound to bring some media coverage.

## Combine what physicians do and what your radio station can do into an effective promotion.

Collect statements from men and women about why the man in the relationship should have a vasectomy. You can do these testimonies on the air, or have people submit videos to put up on YouTube or on your Web site. You can even have the audience vote on which lucky dude wins the trim.

Your sales department definitely should take a shot at selling a schedule to the doc who will do this procedure.

Be sure to have the winner on the air a few weeks after the operation to fill you in on how things are playing out.

**Lose That Tattoo!** — It's amazing how many people in their 20s and 30s who once thought tats were cool are now trying to get them off.

Don't believe me? Ask your local plastic surgeon how many requests they get each month.

Similar deal as above: Have listeners compete for a slot to have their tattoos removed. This time, pick about a dozen to have them all removed at the same time and place. Call local media to come talk to your losers (sorry, I meant winners!).

TV news crews and holier-than-thou newspaper journalists just can't stay away from people who openly share their regrets in public.



## PROMO POWER

BY MARK LAPIDUS

The key to the publicity is having enough tattooed contestants in one place for the media to interview. Plus, you gotta let the doc show off the removal technique. Fascinating stuff.

**Deflation Nation** — Everyone was doing breast augmentation for a long time. Now it's time for reduction.

This one can work in conjunction with a weight loss contest. Contestants compete for the most lost pounds. Whoever sheds the most total tonnage gets to go under the knife. You'll love those before and after videos and photos for your Web site.

**A Shot of Love!** — At the beginning of winter, set up a low-cost flu shot solution for your listeners.

Many drug and grocery store chains now offer these. Have them make a special offer for one day and promote like an

epidemic. Not real sexy, but usually much appreciated.

**Grill Time** — Not everyone actually wants a grill installed on their teeth, but once again there is a certain sick fascination in hearing from people who are interested in this stranger-than-fiction installation.

(If you don't know what I'm talking about, go to Google Images and type in "grill teeth.")

The trick is finding a dentist to work with.

Is there liability in doing these promotions? You betcha. Make sure your legal beagles know what you're up to and that all of your doctors have insurance. No, those silly release forms you have people sign are not enough to protect you.

Now, let's go mental ...

**Couch Time!** — This is the most brutal of them all because it involves the mind.

You're looking for people who need a few free sessions with a therapist. These could be individuals or couples. This one could work well with morning shows and talk shows who like to explore emotional issues. You gotta make sure you find an

See RX, page 37 ►

## STATION SERVICES

## Kabel Takes on '2nd Shift' at Entercom

Entercom Communications debuted "2nd Shift," a syndicated nighttime program airing on its country stations. The show will initially air in the San Francisco, Seattle, Portland, Ore., Kansas City, Rochester, Greensboro and Wilkes-Barre/Scranton markets.

"2nd Shift" is hosted by Alan Kabel, a radio entertainer with hosting experience that includes morning shows coast-to-coast as well as another syndicated nightly program. Entercom says he is known for his quirky sense of humor, light and informative interviewing style and ability to make listeners feel like family.

"2nd Shift" isn't about what I want to hear; it's about whatever direction the listeners take it," said Kabel. "At times, '2nd Shift' listeners will hear Kenny Chesney, and at other times it might be Hollywood insiders, such as George Clooney.

"The underlying theme, though, will always be the most exciting music produced in the last 20 years, combined with the fun banter that's par for the course in hosting toll-free, open topic telephone lines," he said.

For more information, visit [www.secondshiftshow.com](http://www.secondshiftshow.com).

## Stations Can Get Harvey on Saturdays

"Steve Harvey Saturdays" will debut June 7.

The show is fully produced and turnkey; it will air Saturdays from 6 to 10 a.m. ET and feature the best of "The Steve Harvey Morning Show."

Syndicator Premiere Radio Networks, part of Clear Channel, said Harvey has the number one-rated morning show in the top 50 metro markets with Persons 12+, 18-34, 18-49, 25-54 and Women 25-54; it cites Arbitron Fall 2007 statistics.

## Rx

► Continued from page 36  
articulate therapist for this one because they'll join you on-air in presenting the conflict, analysis and resolution.

Speaking of talk radio, we could use more articulate docs on the air in this country. Yes, they are hard to find and difficult to keep, but even finding a doctor to do a talk show on your station could be promotion.

Hold open doctor auditions for a few weeks. Give each doctor 15 minutes of fame to show off their knowledge and take calls.

Might just be the medicine your station needs for anemic ratings.

Contact the author at [marklapidus@verizon.net](mailto:marklapidus@verizon.net).

## GM JOURNAL

The Harvey show is heard on about 60 stations including WBLS(FM) in New York, KDAY(FM) in Los Angeles, WGCI(FM) in Chicago and KRN(FM) in Dallas.

For affiliation, contact Premiere Radio Networks at (818) 377-5300.

## Barnett: Bringing Young Blood Back to Country

Veteran programmer Bob Barnett launched CountryRadioConsultants.com, a radio programming management consultancy specializing in "next-generation country radio guidance." He says technological innovation and changes in con-

sumer tastes are creating new opportunities for country radio to connect with fans, and that country radio needs to be more aggressive about integrating new media elements into the existing business model.

"Research is showing that the country audience is not only aging, but getting smaller in size because it's not attracting younger listeners to the format," said Barnett.

Barnett says the time is right to reimagine the country radio model with a fresh perspective.

"Historically, the format is the healthiest when it has balanced appeal across the 25-34, 35-44 and 45-54 cells. Country radio must utilize these new tools to reach the younger end of the demo and connect with them on their terms," he said.

Barnett offers 25 years of industry experience, and says he has successfully merged new technology and product innovation with a conservative research-based strategy to develop winning country stations in cities such as St. Louis, Nashville, Rochester, N.Y., and most recently, Miami-Ft. Lauderdale.

In addition to providing consulting services for country radio, he has put together an array of Web resources and programming tools to help programmers maximize the benefits of new media audio and video elements. His Web site includes tools such as "The Daily Plan-It," a day-to-day guide and checklist to help over-worked program directors and promotions directors stay on track.

For more information, contact Bob Barnett at (954) 235-1705 or visit [www.countryradioconsultants.com](http://www.countryradioconsultants.com).

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Both luncheons run 11:30am to 2pm and include time to meet with the publication editorial staff, sponsors and other attendees.

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SUPPLY SIDE

## Internap Aims to Provide 'Ultimate Online Experience'

Internap Network Services Corp. is an Internet business solutions company. Internap says it helps clients manage, deliver, distribute and monetize content and applications online; it maintains a platform of data centers, managed Internet services, a content delivery network and content monetization services.

In April, for instance, it said Beethoven.com radio had selected its ad delivery service and CDN to monetize its Web site and deliver classical music to new audiences.

The company is headquartered in Atlanta; its stock trades on the Nasdaq National Market. Radio World talked to Director of Advertising Projects Emma Woods.

**RW:** How does your company help stations manage their online enterprises and extend their brands?

**Woods:** Internap's platform provides radio stations with maximum control over their advertising content and inventory, including real-time ad campaign tracking and user targeting, which enables advertisers to maximize ROI.

Our system is impressions-based and designed to guarantee ads are prioritized based on value while maintaining effective rotation.

In addition, the company's inventory prediction tool gives stations visibility into the ad inventory that has been sold and what is left available.

Radio stations can use this tool to leverage their inventory by increasing the ad rate and selling limited inventory at a premium. Ultimately, this enables stations to provide advertisers with premium inventory while maintaining good rotation for a higher ad rate.

Internap also makes it possible for stations to provide comprehensive reporting data, such as audience metrics that provide the advertiser with the opportunity to modify their ad campaigns. With this tool, broadcast companies can look at the data aggregated for either its entire network or its regional stations.

Through online streaming, radio stations can get audience metrics from their player including the number of listeners and how long they've been listening.

Internap's registration feature also enables stations to capture and track audience data such as age and gender. This provides stations with the ability to help advertisers track and target its advertising efforts through audience demographics.

**RW:** What are some of the coolest, newest tools to help stations make an impact in cyberspace?

**Woods:** Internap's inventory prediction tool is a great resource for radio stations because it provides them with critical business intelligence necessary to optimize their advertising sales.

The company's tracking tool is also a valuable resource, as it provides stations with a complete description of how many people are listening during a specific time of day. This makes it possible for stations to obtain a very accurate idea of how to effectively price its advertising space.

**RW:** What are some of the most common problems stations run into online?

**Woods:** Radio stations commonly run into royalty issues when it comes to streaming ads online, and they under-



Emma Woods

stand that if they want to stream programming online there are certain regulations they must follow.

Sometimes, because of these regulations, certain advertisements must be suppressed online and replaced with alternate ads. Internap's advertising software enables stations to literally place a streamed ad in front of a broadcasted ad.

The software communicates directly with the station and receives triggers during breaks that tell it when to insert specific ads into the radio's streamed programming, so that the online advertising is placed dynamically.

RIAA now requires specific reporting in order to calculate the fees involved in streaming songs online. Internap provides stations with the ability to collect the necessary data in order to maintain compliance with the RIAA's reporting requirements.

Radio stations ultimately want superior quality and control, and the ability to customize the look and feel of their player as ways to extend the station's brand.

**RW:** Are stations more savvy now when it comes to working on the Web?

**Woods:** Definitely. Radio stations realize they have to stream online in order to be successful and reach new audiences.

For example, one customer wanted to add an Internet-only bluegrass station to its offering because it realized that within its wider audience were certain niche groups that liked this genre of music. Once this new station was created, it had the ability to book a set of advertisers that wanted to reach the specific demographic that traditionally listens to bluegrass music.

Stations are also learning they can do things differently online than they do on the air. Some radio stations, in fact, have become more creative online and understand there is a degree of interactivity on the Internet that doesn't exist on air.

**RW:** Has podcasting had a real impact on the online market?

**Woods:** I think it has had an impact, but not the kind of impact that's going to detract from the live experience. With podcasting there's no real sense of urgency for the listener because the con-

tent provided can be accessed at any point in time.

It does, however, enable broadcasters to extend their programming by archiving previously recorded content on their site.

**RW:** What are broadcasters most concerned about?

**Woods:** Radio stations need to monetize their sites in order to subsidize the costs associated with having an online presence. They want to know they're

## Info

Internap Network Services Corp.  
250 Williams Street  
Atlanta, GA 30303

Phone: (404) 302-9700  
Web: [www.internap.com](http://www.internap.com)

**RW:** Are the days of stations defining themselves as "broadcasters" rather than "content providers" coming to a close?



with a partner they can trust who can help them succeed online. Internap does this by providing radio stations with complete control of their content, ad inventory and brand identity.

**RW:** How much will online enterprises contribute to radio revenues in the next year, and the years ahead?

**Woods:** Today, Internet display advertising has the biggest growth rate of any advertising medium, therefore the quicker stations get in to the online game, the faster they can take advantage of where advertisers are spending their ad dollars.

**Woods:** I don't think so, no. I believe they'll still consider themselves broadcasters, but the role and perception of radio stations is expanding.

Going back to the topic of podcasting, new media and emerging technologies are providing radio stations with more advanced ways to produce content and earn money. What was once an audio medium has also become a visual medium.

Radio stations are always thinking about ways they can improve the listener experience. Humans are visual so anytime stations can add a visual component to their site the more likely they are to build customer loyalty.

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# Put Me in, Coach! I'm Ready to Play

**Effective Coaching Helps 'Push' Business Success and 'Pull' Effective Leadership**

by Gary Begin

If you're not getting better, you're falling behind. In today's multi-media world, you need to "take your game to the next level."

To be competitive, you need effective coaching.

Tiger Woods knows this, as does every world-class athlete, opera singer, performer or executive. It's true of your station sales, programming, technical and other staff as well.

Winners in any profession understand that without the right "coach," they won't achieve their objectives. And the objective is winning.

As a consultant, I must wear many hats: advisor, expert, salesperson, problem solver, coach, referee, banker, publisher and author. I believe a steady focus on effective coaching will increase your performance, even in the face of client and project distractions, and secure your spot as a winner.

Active, ongoing coaching is the quickest way to improve your station's performance level. Unfortunately, coaching may be the first item bypassed by busy general managers, market managers, programmers, DOEs and sales managers.

In my travels as a consultant, I am reminded every time I turn on the radio that most air talent lack the "relate-ability" and entertainment skills necessary to keep me tuned in.

Since coaching is something done *with* people, rather than *to* people, how well prepared (both in skills and attitude) are managers to coach? Managers typically possess an innate interpersonal technique; so perhaps management's perceived value of coaching can be an indication of how readily it's being absorbed into business culture and put into practice.

Coaching has a powerful, long-term impact on people and your station's effectiveness. Coaching is talking with a person in a way that helps him or her solve a problem.

Some managers confuse coaching with giving advice. As Gore Vidal said, "There is no human problem which could not be solved if people would simply do

as I advise."

The reality is often that, as Gordon Dickson noted, "Some people like my advice so much that they frame it upon the wall instead of using it."

What is a more effective approach?

Managers are asked to improve productivity without additional resources. They need to invite employees to participate as partners, develop trusting relationships and combine everyone's best efforts into creating business solutions.

One option is to enhance behavior and performance through interactive communication and influence, such as coaching. Managers also need to use their coaching skills within the company with those who don't necessarily report to them, and outside their organization.

There is an increasing need to improve involvement and engagement of all employees to achieve business outcomes.

An effective coaching skills strategy emphasizes collaboration and respect rather than control and faultfinding. Such a strategy adds a tangible aspect of value. People can see effort being expended in helping them do a good job and experiencing a sense of achievement.

Effective coaching skills, therefore, contribute to not only a "push" to achieving business outcomes, but also a "pull" towards effective leadership.

## Traits

What makes a good management coach?

Think of the following as an "air check" for your management team on coaching employees.

**1. Knows the discipline she's coaching** — It seems obvious, but a coach must know ins and outs of the discipline — the rules, the history, the tactics etc. Without it, neither coach nor employee will be able to do their jobs properly and will quickly lose face when they start making mistakes.

**2. Motivates the team** — This is probably the most important trait of a good coach. Without proper motivation, everything comes apart. Remember that a coach will need to lead a team of individuals,

everyone with different personal goals. The coach's job is giving the team enough motivation to turn their attention from their private matters to the goals of the station.

**3. Talks only when it gets results** — A good coach will never speak without a good cause. If he talks too much, employees will stop listening. A coach should talk only when necessary — this will give his words an extra weight.

## 4. Ability to listen

Being calmer than usual is a good indication the coach is a good listener. If the manager is to become a good coach, he or she needs to think like a surrogate father or mother for the team; listening is the single most important trait that can make it possible.

**5. Knows their team** — Another important matter is a coach knowing one's team. It's not only about matching numbers with the names. A good coach knows about the professional and the private lives of her teammates.

**6. Treats everyone individually** — While a good coach should know everybody, it is necessary to treat each employee individually. Treat them as you would like to be treated.

**7. Leads by example** — A good coach does everything he will ask others to do. He always sets an example.

For guidelines to a productive coaching session, see the accompanying list.

## Interpersonal issues

Beyond technical aspect of setting goals during coaching, it is critical to pay attention to certain interpersonal issues:

As the coach, you must set clear expectations, performance standards and specific objectives regarding what should be done, when and how.

Measure performance.

Focus on behavior, not value judgments.



ments.

Correct deviations from performance standards.

Make it clear that you are on the same side as the employee and that the objective of the meeting is for the employee to be successful.

Provide guidance while preserving the employee's self-esteem.

Give an employee with longer service an extended time to improve.

Set the time for improvement in accordance with the specific behavior involved.

Managers, employees and their established work practices are under pressure to change and achieve results never before asked of them. Effective coaching skills, while not the only need, can be a major contributor to the solutions.

Effective systematic coaching is an opportunity to build meaningful partnerships between members of an organization who meet these challenges. Without effective coaching skills, progress is just that much harder.

Mark Twain said it: "I'm all for progress, it's change that I don't like!"

Gary Begin, with partner Steve Bianchi, is a radio consultant, researcher and strategist with Identity Programming, a multi-format consulting firm specializing in small and medium growth markets. It is based in Jackson, Tenn., with offices in Warwick, R.I. Reach him at (731) 437-0536 or via garybegin@jaxnet.net.

## Guidelines to a Productive Coaching Session

- ✓ Put the employee at ease. This is particularly important when the coaching session is in response to poor performance.
- ✓ Focus on actual behavior. Obtain the employee's agreement on what the actual behavior has been.
- ✓ Express the performance standards for the job and review performance of the employee. Explain why it is important to the business for the employee to perform well.
- ✓ Ask for the person's view on why performance does not meet standards. Does the employee believe there is a problem?
- ✓ Describe areas of performance where the employee must improve. As much as possible, describe desired performance in terms of results that are to be achieved. Describe what good performance looks like, providing concrete examples of good work.
- Spend as little time as possible discussing the problem. Focus on solutions.
- ✓ Discuss with a positive attitude. What does the person propose to do to solve the problem? Get the employee to develop steps to solve the problem to create a sense of ownership in the solution. Suspend the session if the employee needs more time to develop a plan. If the employee cannot develop a plan, develop one for the employee.
- ✓ If the employee does not have a plan or is unwilling to discuss it, lay out a plan and encourage suggestions and questions. If the employee makes suggestions, include one or more in the plan, if possible. Then ask them if they'll be ready to commit to the plan.
- ✓ If the employee won't commit, send the employee home to think it over. Failure to commit to improve a problem is a serious issue, and the employee should understand that ultimately it could be cause for termination.
- ✓ Bring in a high-level manager or human resources professional to talk with the employee. If the employee still won't commit — which rarely happens — termination is probably necessary.
- ✓ If things do go well, agree to a written action plan containing specific goals and timetables for meeting them.
- ✓ Ask if there's anything you can do to help. Unless the employee wants you to take responsibility, if it is in your capability agree to provide any assistance.
- ✓ Have the employee commit orally to the action plan; and provide him or her a copy of the plan. Retain a copy as documentation of the meeting.
- ✓ Follow up on performance based on the goals stated in the action plan. Provide feedback on how the employee is doing. Offer suggestions to improve performance. Praise instances where performance has improved.

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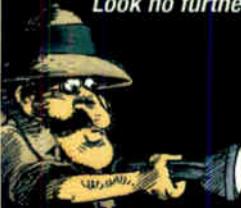
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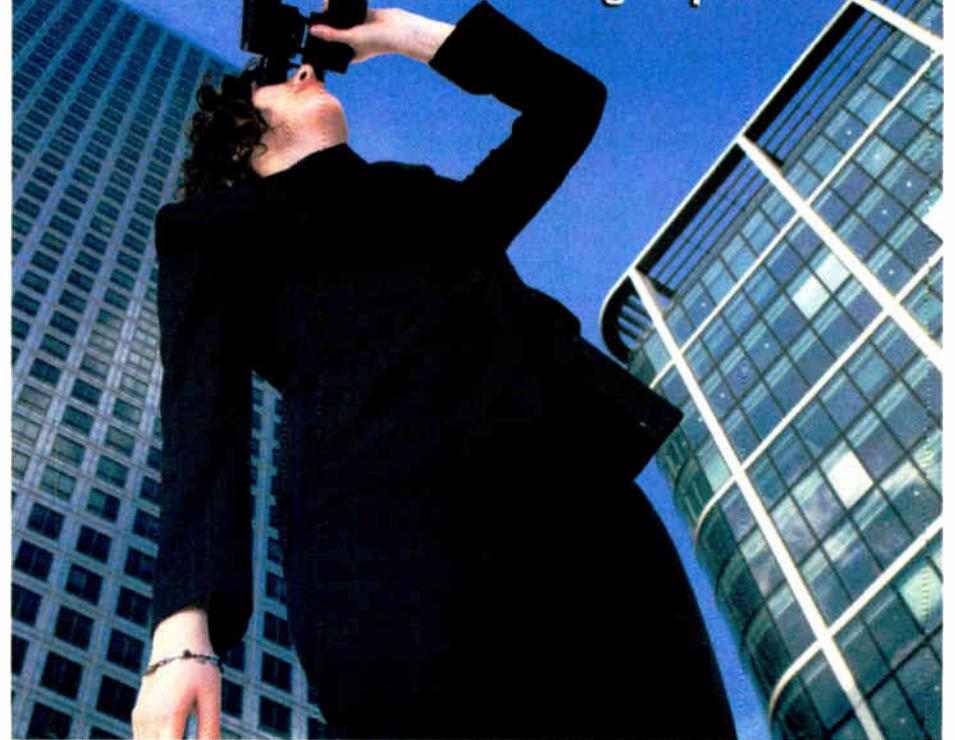
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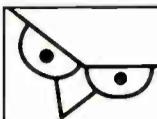
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GUEST COMMENTARY

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# DOJ Got It Right On the Merger

*Decision Signals Recognition of How Competitive And Diverse Telecom Content Delivery Has Become*

by Maury J. Mechanick

*Maury J. Mechanick serves as counsel for White & Case LLP. The law firm has no business relationship with the satellite companies.*

After a delay of more than a year, the Department of Justice announced on March 25, 2008 it would not block the proposed merger of XM and Sirius.

Although that is not the final step in the process, as the FCC must still give its blessing to the deal as this issue of Radio World goes to press, it served to remove a major stumbling block in the way of its progress. It also represented good news for the satellite industry as a whole on multiple fronts.

First and foremost, a black cloud of uncertainty hanging over the satellite

eschewed these techniques in favor of an analysis of the actual behavior patterns of XM and Sirius and their customers in the telecom marketplace today, and what impact, if any, the combination would have on the future marketplace behavior of the various participants and affected parties.

And while it may seem counterintuitive at first glance that the merger of the only two U.S. satellite radio operators would not diminish customer choice and potentially lead to price increases, in fact — as the department properly concluded — the likelihood of such outcomes occurring was overblown and did not rise to the level where government intervention to block the merger would have been appropriate.

As the department correctly observed, there was very little competition between the two companies to date in terms of

**A black cloud of uncertainty hanging over the satellite industry since the proposed merger was first announced has begun to dissipate.**

industry since the proposed merger was first announced has begun to dissipate. A number of contemplated transactions that had been on hold awaiting the final word on the deal can now move forward.

Second, the approach taken and the final outcome reached by the Department of Justice represent major positive milestones for the industry.

#### Analyze this

While the immediate reaction to the department's decision has, in some quarters, been one of scorn and derision, the actual analysis conducted is quite sophisticated and perceptive, albeit somewhat unconventional, in terms of traditional duopoly combination situations.

Rather than attempting to number-crunch market share figures or quantify concentration levels, the department

price or customer choice. The largest percentage of their business was generated as a result of customized satellite radio equipment installed in vehicles, so the determination of which satellite radio provider a particular customer would select was dictated by vehicle purchase.

Nor would anyone credibly suggest that a car purchaser decides which car to buy based on which satellite company's receiver comes installed in the vehicle. Also, a portion of the mass-market retail sales made by the two companies were to customers who already subscribed to one of the two companies and were buying a second or third receiver to complement their existing subscription.

Again, it would be hard to believe that potential price or content competition would have any bearing on this type of

See MERGER, page 46 ▶

## ◆ READER'S FORUM ◆

### Here's a Thought

I just read Steve Lampen's idea for "street names" at NAB ("On the Street Where You Live," March 26) and I must say "Bravo!" I fully support this idea.

It would be easier to find everything, and everyone, if this plan were implemented. The current booth numbering system is worthless, and the printed maps are confusing and a pain to carry around all day.

It would be so much easier to meet someone on "the corner of 83rd & Sony."

That brings up another idea: Have the big vendors pay a fee to have their company name used for a street at the show.

Bart Jones

Chief Engineer

Gray Center for the Communication Arts  
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GUEST COMMENTARY

# There's a New Exporter in Town

**Harris Says Next-Generation Exporter Is 'Key' to the Acceleration of HD Radio Rollout**

by Tim Anderson and Ted Staros

Anderson is FM product line manager for Harris Broadcast Communications; Staros is the director, Harris Pacific Design Center.

The HD Radio broadcast rollout has been well publicized in recent years as the number of FM and AM stations successfully implementing this medium continues to grow. FM broadcasters have been quicker to benefit, no doubt due to a more generous bandwidth allotment that makes multicasting possible with the installation of specialized compression, multiplexing and transport equipment.

Since 2005, the HD Radio Broadcast System Architecture (BSA) has been based on Ibisquity Digital's Generation 3 "Exgine." This implementation strengthened the architecture from previous generations by returning the IT-based components to the studio, and allowed the development of the Flexstar HDx Exciter.

As with the development of any new technology, improvements continue to be made. Harris, in conjunction with the NAB and Ibisquity Digital, are taking digital radio to the next level with the release of a next-generation exporter that fortifies the importer-to-exporter (I2E) and exporter-to-exciter (E2X) transport protocols, and brings added value to the HD Radio Broadcast System Architecture.

## More for less

NAB, which is driving the development of next-generation exporter technologies industry-wide, announced the improvements to the Exgine architecture at a press conference in Las Vegas on April 13. The chief initiative for the manufacturers is to develop a new exporter that minimizes equipment costs for the radio station and delivers a more reliable technical infrastructure. NAB members have pinpointed cost and reliability concerns of the exporter as a main roadblock to wider HD Radio implementation.

The next-generation exporter features a fresh hardware embodiment of Ibisquity Digital's intellectual properties. The new Ibisquity Digital 4.0 software code fortifies the E2X protocol for STL transport

of analog and HD Radio signals in both point-to-point and point-to-multipoint configurations.

The software also incorporates HD

STL system.

Harris is taking advantage of this new software code in the form of its HDE 200 Exporter. It brings a unique feature set to the market at a lower price point, allowing the broadcaster to more easily fit HD Radio implementation into a station's budget.

**The chief initiative is to develop  
a new exporter that minimizes equipment  
costs and delivers a more reliable  
technical infrastructure.**

Protocol (HDP), a new transport layer protocol that provides support for IP distribution from a central studio to multiple transmission sites. It includes support of TCP over IP transport of the E2X protocol, further enhancing the robustness of the HD Radio data stream over an

The Harris Pacific Design Center, which specializes in studio and control solutions through its VistaMax Audio Management platforms, has designed a fully functional, reduced-sized exporter that will deliver more for less — especially to HD Radio multicasters — with

the support of multiple stream delivery over a single, dedicated connection.

Product service lifetime has been another concern directed toward the current-generation exporter. Today's large PC-based exporter systems have reliability limits due to spinning disk drives and thermal characteristics "under the hood" that leave them subject to wear and tear. Longevity concerns are virtually eliminated with the HDE-200, with no spinning fans or disk drives in the design. This also eliminates noise emanating from the exporter, allowing it to be placed in any location, including the smallest studio.

The footprint also is drastically reduced at only one 19 inch rack unit high. The lightweight device is easier to install and requires little maintenance.

Harris will have a white paper in the June issue of Radio World Engineering Extra that explores the feature set, including an internal GPS, profanity delay, Arbitron People Meter and other benefits that reduce the cost of external equipment upstream, as well as the changes to the I2E and E2X protocols that will position IP as the central distribution component in future multicast configurations.

## ◆ READER'S FORUM ◆

### Nobody's Fool

Do I get a prize for being one of the first to recognize your hoax in the March 26 issue? Whoops ... make that the April 1 issue (at least on pages 70 and 71).

Is it purely coincidental that the authors' names spelled backwards are "Full of Crap" (Dr. J. Parcollowf) and "No Signal" (R. Langison, P.E.)? I think not.

After much suspicion, the final tip-off was the authors' speculation that the related potential weight gain for humans could be "a health benefit."

Good job. You had me going there for a while.

Craig J. Pringle  
Ames, Iowa

I've not written before to comment about your great magazine but this one keyed my final ("A New Concept in Antenna Design," March 26).

I loved the article on the AM-VA. Especially when you spell the authors' names backwards.

Keep up the good work.

Bob Felmy  
Cuyahoga Falls, Ohio

Absolutely hilarious!

Wayne Kube  
Dallas

The article appearing entitled "A New Concept in AM Radiator Design" was fascinating. I haven't worked in AM radio in many years, but I sure wish the AM-VA tower was around when I did.

I would have avoided the time and expense related to the obstruction lighting and painting of three towers. I would never have had to worry about lightning damage to the transmission system. Finally, the problems with ball gaps and Austin ring transformers that John Bisset featured in his *Workbench* column would have been of no concern.

Perhaps the authors could touch upon the skywave characteristics of this new radiator in their next article. I look forward to seeing that next April 1.

Jon Frank  
Boston

Paul, I was just wondering if you had many people wanting to get in touch with Dr. Parcollowf IV about this revolutionary antenna concept?

I remember similar, excellent, technical articles that were always published on April 1 by the ARRL in QST magazine. I always enjoyed these articles and learned a lot from them.

Geoffrey N. Mendenhall, P.E.  
Vice President  
Transmission Research and  
Technology  
Harris Corp.  
Mason, Ohio

*Ed. Note: The article was written by Tom Silliman and Eric Wandel of ERI, who also contributed our 2007 April research piece about the marvelous "Top Spin Antenna."*

April 1, 2008

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GUEST COMMENTARY

A Provocative Research Idea Leads  
Field Observers Onto Likely Solution

Dr. J. Parcollowf IV and  
R. Langison, P.E.

For the past year, engineers at AM Virtual Antenna (AM-VA) have been developing a radical new antenna concept for use in commercial AM broadcasting. AM-VA began working toward the ultimate AM antenna solution when a major broadcaster retained AM-VA to an AM antenna problem. AM towers were

### FEATURES

## A New Concept in AM Radiator Design

Idea Leads

Field Observers Onto Likely Solution

Notice also that the actual length of the buried monopole is reduced as a result of the increased permittivity of the ground, which serves to increase the electrical length of the antenna.

In the test phase, we initially decided to use a pile driver to drive a metallic pile into the ground below a ground plane as the test antenna.

This proved impossible due to the layers of rock below the ground. Each test

pile would stop at the rock layer. The breakthrough came when we went to an oil drilling rig which could drill through the rock.

This also allowed us to drill multiple holes in a triangular pattern creating an underground virtual tower. The large size of this tower gave us an opportunity to improve the base impedance band width of our virtual tower model for use with AM digital IBOC tests.

In order to feed the test model of our AM-Virtual Antenna we installed an insulator on top of the virtual antenna by attaching a top plate to the top of the

three oil well pipes that were installed one quarter-wave into the ground. On top of this plate, we installed a three-foot-tall glass insulator.

Finally, we installed a one-quarter-wave radius circular ground plane at the ground and attached it to the top of the insulator. We fed the AM-VA at the junction of this ground plane and the top of the oil well pipes.

In order to monitor the performance of the AM-VA, we installed two sample loops underneath the ground system. In this way, we could sample the induced current in the base impedance of the AM-Virtual Antenna above the ground.

See RADIATOR

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## Consumer Awareness Is a Slippery Thing

### Let's Not Fool Ourselves: HD Radio's Marketing Campaign Has Not Yet Been Effective

The HD Digital Radio Alliance's marketing campaign for HD Radio has been criticized in these pages as ineffective.

Some indicators tell a different story. Consumer awareness of HD Radio stands at 77 percent, according to a survey of listeners by Critical Mass Media cited by the alliance. In a separate study of current or likely auto buyers by J.D. Power & Associates, 31 percent said they want HD Radio in their next vehicle.

Peter Ferrara, CEO of the HD Digital Radio Alliance, was quoted by FoxBusiness.com as saying, "We closed 2007 with consumer awareness at unprecedented levels. This year will see unparalleled numbers of receivers in cars and at retail, totally new data applications and new investments in HD2 and HD3 programming from broadcasters."

"Now is the time to convert consumer awareness into purchasing action."

The trademarked name "HD Radio" is still a relatively new one, yet the alliance already touts consumer awareness of 77 percent. It took HD television time to become a must-have technology. It takes a while for such things to prove value to consumers. So what's the problem?

We fear that the alliance and industry leaders are wearing pretty thick rose-colored lenses. Other researchers come up with different findings, which match our own anecdotal experience.

In the annual study "The Infinite Dial," which considers trends in the use of digital platforms including podcasting and Internet radio, Arbitron and Edison Media Research conducted a national survey of 1,800 adults in January.

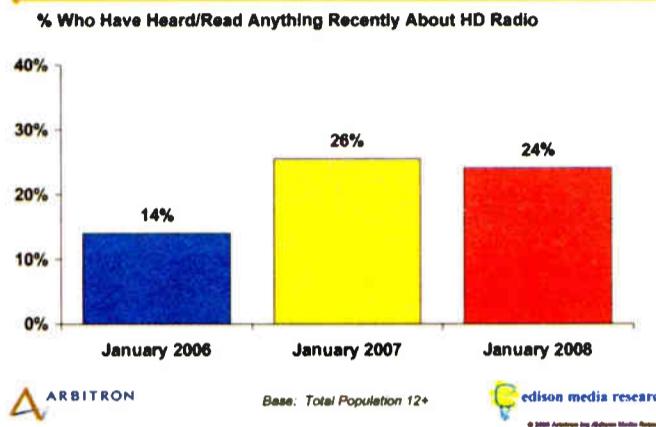
They found no growth in awareness for HD Radio (see chart), and said 66 percent of consumers are not very interested or interested at all, based on a description of the technology. The number who said they were "very interested" was a paltry 6 percent.

This is the result of two years of ad support in which the alliance has invested close to a half billion dollars in air time?

The study's authors concluded that HD Radio does not appear to be attracting substantial numbers of consumers: "Less than one-quarter of the sample can recall seeing or hearing anything recently about HD Radio (down slightly from 2007) and only 6 percent of consumers say they are 'very interested' in the concept when it was described to them," the study states.

"Those involved with HD Radio should find new ways to present the concept to consumers to trigger more response."

### No Growth in Awareness of HD Radio in the Past Year



effective when more consumers aren't aware or interested to begin with.

President/CEO Peter Ferrara says the radio companies in the alliance feel good about where HD Radio stands, but "We want to make it great."

He's correct to push for "unparalleled numbers" of receivers in cars and at retail, new data applications and new investments in multicast programming. We think those changes are coming.

We also feel that real success for HD Radio will come when local stations start putting truly remarkable programming on HD2 channels and listeners start to tell each other about the great new secret stations they're listening to and the smart radios they have in their cars. And it's true that the alliance's hands may be tied by broadcast members who probably don't want to pony up cash for TV promotion after having invested in digital equipment, aren't yet getting ROI on their HD2 or other digital channels, are seeing flat revenues for another year and now must pay more for their Arbitron PPM ratings than for the diary.

But the marketing effort of HD Radio has not been a success so far. Digital radio proponents need to acknowledge that consumer awareness remains low before we will feel better about their plans for converting such awareness into purchases in the next two years.

— Radio World

## Merger

► Continued from page 44  
 purchase decision.

The only place where price or content competition between XM and Sirius could have an impact was in that portion of mass-market retail sales for stand-alone equipment for new subscribers, where the department correctly took note of the robust competition already present between satellite radio providers and over-the-air AM/FM broadcast radio, HD Radio, Internet radio and devices such as MP3 players and cellphones.

It was quickly concluded that the merger of XM and Sirius would have a negligible effect, if any, on competition in this expanded market segment.

This analytical methodology was music to the ears of the satellite industry on two levels.

First, it signaled recognition by antitrust authorities of how competitive, dynamic and diverse the telecommunications content delivery marketplace in the United States (and, for that matter, globally) has become, which can be taken as a positive harbinger of their approach in the future to the telecom sector in general.

Second, it demonstrated a willingness in such circumstances to dispense with more conventional competitive impact approaches that fail to accurately capture actual marketplace behaviors.

The final benefit to the satellite industry came by eliminating (or at least down-playing) a specific regulatory concern that potentially faced other segments of the satellite industry, in particular the mobile satellite services segment. While today the MSS sector is in the process of experiencing a rebirth of sorts, there is a broad consensus that some rational industry consolidation is required to avoid the potential for costly, and possibly fatal,

over-investment.

However, one of the uncertainties associated with such potential consolidation has been whether the FCC or the antitrust authorities might have special concerns with regard to mergers between two companies operating in the same frequency band (i.e., L-Band, such as Inmarsat and MSV; or S-Band, such as Terrestar or ICO), particularly where doing so might consolidate the allocated spectrum in that band in the hands of a single operator.

And while it could be a mistake to read the outcome of the XM/Sirius merger too broadly on this issue, a decision by the department to oppose the merger could have had a chilling effect on consideration of other possible consolidations involving companies that share the same frequency band allocation in a manner similar to XM and Sirius.

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