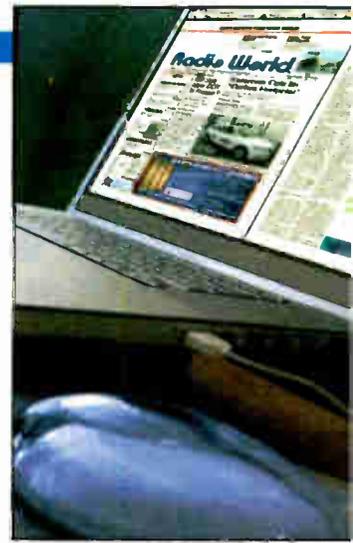


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Page 38

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January 3, 2007

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Sean Ross spends \$99 and has a listen to the Accurian HD Radio.

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Your 2007 Radio World Source Book & Directory is mailed with this issue. Use it all year long.

FIRST PERSON

Arbitron PPM Coming to NYC

by Thomas R. Ray III, CPBE

The author is vice president/corporate director of engineering for Buckley Broadcasting/WOR Radio in New York, and chairman of SBE Chapter 15.

NEW YORK The Arbitron Portable People Meter is coming to New York, with encoder installations to start this month. Arbitron representatives recently

spoke with New York market engineers at a meeting of the Society of Broadcast Engineers, Chapter 15, to discuss installation and technical issues, plus general questions regarding the PPM.

In preparation for the meeting, Arbitron shipped an encoding package to my office at WOR Radio, and I installed the PPM encoder on one of WOR's backup STL paths. WOR was running active

See PPM, page 14 ▶



Photo by Tom Ray

WOR installed the analog PPM encoder on a backup path. Installation took five minutes.

HD Radio: 'Pieces Are Just Loose'

Consultant Assesses Coverage, Outlines the Kinds of Headaches Stations Can Expect

by Daniel Mansergh

Four years into the age of terrestrial digital radio, as more engineers get their hands on the nuts and bolts of IBOC operation, many have experienced a vague feeling of unease. Or perhaps it's a more distinct pang of realization: that HD Radio coverage is a very different animal than the multipath-laden, noisy, scratchy, quirky propagation of analog FM that they understand so well.

While engineers swapped coverage anecdotes in the early days, with just a few stations in a market transmitting digital signals and a roughly equivalent number of receivers capable of tuning in, even soft data were hard to come by. Reports of interference were few.

Now, with more than 1,000 stations on the air with HD Radio and receivers readily available in the marketplace, true under-

See COVERAGE, page 8 ▶

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◆ NEWS WATCH ◆

Britain Approves In-Car FM Transmitters

LONDON Britain has joined Germany and Switzerland in lifting a ban on devices that enable consumers to listen to their iPods, MP3 players and other portable devices through their in-dash radios. Britain's Office of Communications amended the country's 1949 Wireless Telegraphy Act, which made certain low-power FM modulators legal. Approved devices will bear a CE label for approved

use in Britain and throughout the European Union, although many European countries still ban the transmitters.

In a review, members of the public and several members of Parliament asked that the FM modulators be legalized. The 1949 ban was put in place to prevent interference to radio stations after World War II and at the beginning of the Cold War.

Sirius Cuts Subscriber Outlook

NEW YORK Sirius Satellite Radio cut its subscriber forecast for the year in

reaction to a softening in the satellite radio sales market.

In November, Sirius had said it expected to end the year with 6.3 million subscribers. In December, the company projected ending the year with 5.9 to 6.1 million.

Company President/CEO Mel Karmazin stated, "While strong, this year's retail sales results since the Thanksgiving weekend have not been at the pace we had anticipated."

XM has reduced its subscriber projections for 2006 more than once. In November, it projected ending the year at 7.7 million to 7.9 million.

Karmazin indicated Sirius had a tough

act to follow at the end of '06 because a year ago, with Howard Stern's anticipated arrival, the company added 500,000 subscribers in the last 10 days of 2005, representing nearly 25 percent of that year's net additions.

Despite the revised subscriber projections, Karmazin remained upbeat, telling analysts that even if the company doesn't make it to 6.3 million subscribers in 2006, the quarter will still be the second-best in Sirius history and 2006 the best year for the satcaster.

Citadel, ABC Radio Alter Merger Deal

NEW YORK Citadel and Disney have renegotiated terms of the merger agreement between Citadel and ABC Radio, reducing the amount of cash Disney would retain by \$300 million.

The revised agreement would give Disney more of an ownership stake in Citadel, from 52 percent to 57 percent. The total value of the deal is now down from \$2.7 billion to about \$2.5 billion, according to Citadel in a statement.

The deal is still subject to regulatory approval. Closing is not expected before May 31.

Radio Pushes FCC for Eased Ownership

WASHINGTON A coalition of radio, television and newspaper companies and See NEWSWATCH, page 6 ▶



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The HD-R Alliance Gears Up for 2007

Digital Broadcasters to Place More Emphasis on the Automotive Sector

At its launch a year ago, members of the HD Digital Radio Alliance — most of them commercial radio group operators — said they had set out to accomplish three things: increase consumer awareness of HD Radio, find ways to accelerate consumer demand and look for ways to help the distribution of HD Radio through retail, automotive and online avenues. Attaining these goals, members believed, would help lower prices for IBOC receivers.

The alliance believes it is making progress on all three fronts. Yet it realizes there's much to be done to facilitate the HD-R rollout.

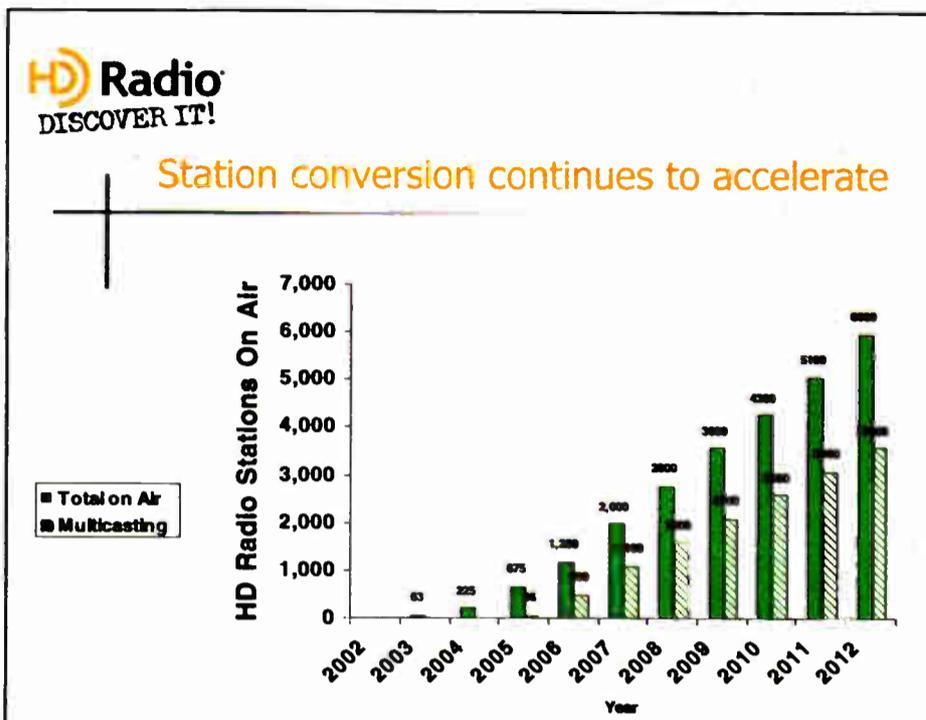
As the alliance turns one year old, RadioShack is offering its Accurian tabletop HD Radio at \$199, with a net price of \$174.99 after rebate. Alliance President/CEO Peter Ferrara calls the \$199 a "tipping point" at which receiver makers will sell not thousands of units, but "hundreds of thousands."

Ferrara says manufacturers have provided him with anecdotal sales information about HD Radio, rather than hard numbers, presumably to avoid giving competitors their sales figures. Asked by

The alliance still needs to smooth out the consumer experience. While achieving a receiver price drop, product availability and retailer sales knowledge about

tive industry, OEM, on the HD Radio converter sets, on everything that has to do with the digital radio experience in the car.

And then we want to continue to be reactive to and supportive of things that go on in retail, whether that's with a Best Buy or a Wal-Mart or a Target or a Sony



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Radio World how the RadioShack Accurian sold at a special \$99 price at Thanksgiving, Ferrara said the retailer was "overwhelmed by the sales. They oversold the radios in virtually every market where they have rolled it out."

The alliance has renewed its charter; member companies have increased their commitment to \$250 million worth of advertising support in 2007, a \$50 million increase over 2006. The bulk of that figure is in radio advertising inventory that will be used to support HD Radio.

The alliance will focus much of its efforts on the automotive chain this year. As RW has reported, up to nine automakers have committed to offer HD Radio in a total of 49 luxury models in 2008 models; those vehicles will be available later this year.

To bridge the gap between aftermarket and OEM availability, HD-R car converters are coming on the market this month. These devices promise to convert nearly any in-dash receiver — as well as satellite radio — to HD-R.

More than 1,000 stations are broadcasting in analog and digital and more than 500 are multicasting as the alliance enters 2007. There are approximately 13,750 licensed stations in the country, not counting LPFMs.

HD-R products appear to be hit or miss, according to numerous readers. While some store sales personnel are helpful and knowledgeable, others are not.

Ferrara acknowledges that each store "has to take the initiative to make it [HD-R] a priority and it's something we just have to keep banging on."

The alliance has urged station personnel to help retailers. As an example, some engineers report they have helped RadioShack managers place the Accurian in a better position to receive a signal in stores and explained the technology to store personnel.

Radio World News Editor/Washington Bureau Chief Leslie Stimson spoke with Ferrara about the alliance marketing plans for 2007.

RW: How will the alliance spend the equivalent of \$250 million in 2007?

Ferrara: In 2007, we really want to be much more proactive on the automotive industry side and try to accomplish the same types of successes there that we're able to do on the device and retail side [last] year. Having said that, we will continue to be opportunistic and reactive based on what comes before us.

It's a bifurcated strategy, one we want to put an added emphasis on the automo-

or whoever else may be coming up in the emergence of the space.

RW: Would the alliance consider putting money into TV advertising?

Ferrara: We'll consider doing anything but I don't consider that that is where our greatest return is going to be, for the following reasons.

When you think about it from the standpoint of what we're attempting to market — and what we're really trying to sell is an improvement in a technology that people already are very, very familiar with — people understand radio. ... It's what's in their homes, in their cars. It's what 85 percent of America listens to every day. So with that as the basis of who we're talking to, what we're trying to sell them is an improvement and a better experience than what they already get.

What better place to do that than on the radio? Think about that. We're selling radios to people listening to the radio on the radio.

RW: Sirius and XM have TV ads. I thought the alliance might want to get HD-R on TV.

Ferrara: Certainly some of our partners, whether the retailers (or) receiver
 See ALLIANCE, page 5 ▶

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Radio World Launches Digital Edition

A trade publication is a community; and this is true of Radio World more than any other.

As we embark on our 31st year, I'm delighted to announce that the large, loyal community of RW readers and advertisers now can enjoy every issue of Radio World and RW Engineering Extra online in a new digital edition, even as they continue to receive it in print.

RW can be delivered right to your desktop or laptop, no matter where you are. Digital subscribers get all the superb features of our print edition plus searchability, links to manufacturer Web sites and other rich media content.

The digital edition is free; you can choose to subscribe to one or the other, or both. Once you sign up, you'll receive an e-mail notification when each issue of RW is ready to view. Just click on the

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link provided and we're right there in your browser. You can read the issue online, print pages and e-mail favorite articles to colleagues. Live links allow you to click on the Web site of a manufacturer in an article or ad, and immediately go to the site. No surfing, pasting in URLs or typing in long addresses; just click.

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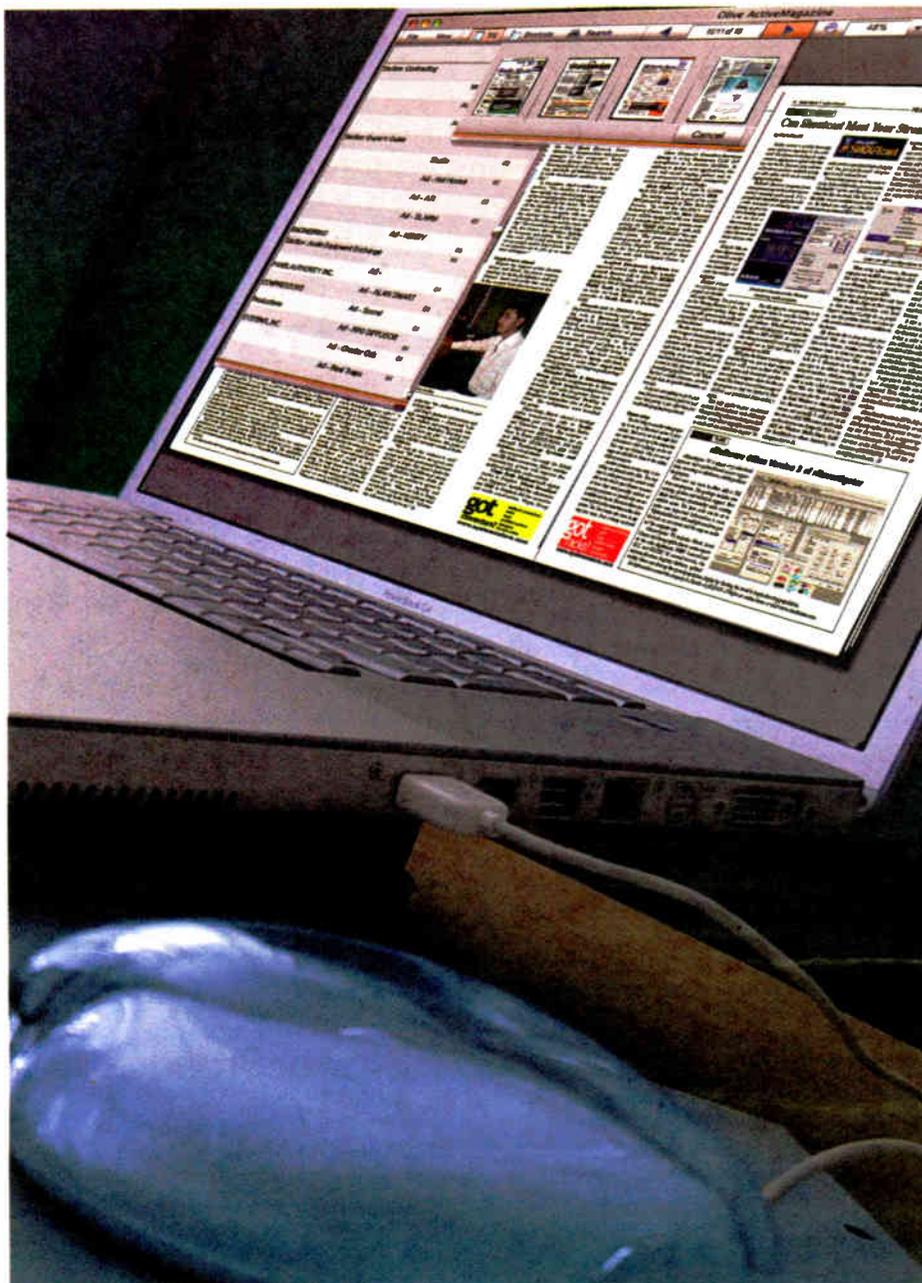
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RW anywhere

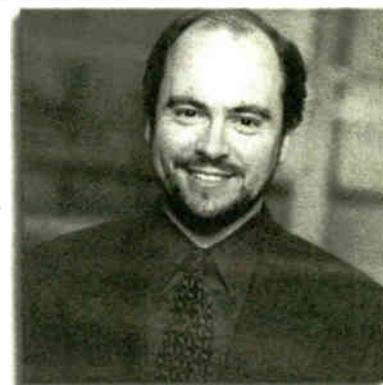
This is exciting news. For years, readers have asked me for online access to RW articles. We've posted highlights for

years. But now the entire issue will be available to you.

Our digital edition benefits everyone. Now more readers can enjoy RW. Advertisers will reach a much broader population. Once again IMAS Publishing is taking a leadership role in serving this community.



From the Editor



Paul J. McLane

RW's sister publications Pro Audio Review, TV Technology and Audio Media recently added digital editions; and the reaction from their readers has been great.

"I like the format and will soon be able to dispense with the hard copy," one wrote. "Thanks again for moving ahead on this endeavor. You have my sincere congratulations."

Another said, "I love the digital edition of the magazine! Since in this business it's nice to see the advertisements too — I know that probably sounds crazy and hard to believe, but true at least for me — this digital edition is a nice way to get the magazine." (Actually it's not hard to believe; many readers tell me that our ads are one of the important reasons they subscribe, to stay informed about what's on the market.)

One reader commented, "This is really great. Fantastic job. ... The e-mail hot links are very helpful. And I can keep a copy around without it cluttering up my desk."

This current issue of Radio World is accompanied by our big annual Source Book & Directory. You'll find it included in the polybag in which this issue was mailed. Our Source Book, too, is now available online, which means you have an industry resource available at your key-strokes as well as your fingertips.

We know that many readers have a special relationship with their RW, and they may prefer the familiar feel of newsprint in their hands. I like it too. I also appreciate having the choice. We hope you will too.

I welcome your comments about the new digital edition. Write to pmclane@imaspub.com. Here's to a happy, profitable and safe 2007. 🌐

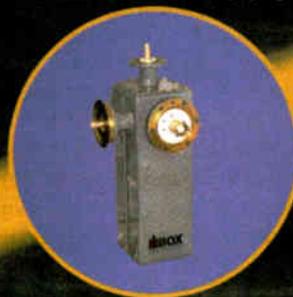
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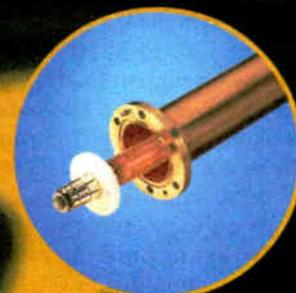
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Alliance

► Continued from page 3

manufacturers, may look to do some HD Radio support on television. But from our perspective, we still feel that radio is the best advertising medium. Well, we think it's *the* best advertising medium anyway. But we also think it's *really* the best advertising medium for HD Radios.

Television for us is just sort of this scattered, large-reach approach that, yes, it has a lot of visual appeal, but again I think from the standpoint of influencing the consumer and convincing them to go buy an HD Radio and listen to it, radio is absolutely the best way to do that.

RW: Is \$250 million enough?

Ferrara: That's a lot. To my knowledge, we are the largest spender on radio today. I don't know of any other client that spends, in a single category, \$200 million and [this] year \$250 million. I think that's bigger than Home Depot, Geico, bigger than anybody else that's out there.

To answer your question, I think it's not only enough, it's a lot. It gives us an amazing share of voice. And the really great thing about what we're doing with it is rather than write \$250 million of just HD Radio benefits-type statements, we're using it to support device makers and the retailers and the automotive industry and giving them the opportunity to tell the HD story in their own voice.

When you hear ads for Tweeter and Sound Advice and Circuit City and RadioShack —those are our commercials. That's alliance time. But what we've done is we've given them the opportunity to tell our story to their customer in their own voice. We think, strategically, that is much, much smarter because they know better than we do how to convince their customers.

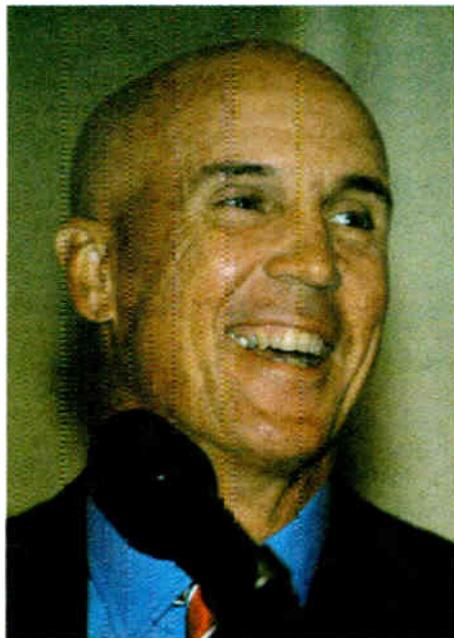
RW: There's been some criticism that the alliance is focused on promoting the hardware and less so the programming; that the alliance is almost promoting HD Radio with one arm tied behind its back.

To my knowledge, we are the largest spender on radio today.'

Ferrara: No, not at all. Again, promoting HD Radio takes all sorts of different facets. Certainly, advertising on the radio is one of them. Our Web site, *hradio.com*, is another one. The things that our partners are doing on their Web sites and in their stores and with their devices are yet another layer.

The stuff that we're going to be doing on the automotive space in the early part of '07 is yet another layer. But from the standpoint of promoting the product it is important, in fact, it's paramount, that the individual broadcaster do that independently ... because HD Radio is not this mindless sound coming out of the sky that hits all of America. ...

What it is, is unique, community-oriented local content and so what the local broadcasters need to do, including the members of the alliance need to do, is self-promote their HD2 channels ... All of that really falls on the shoulders of the



Peter Ferrara is president/CEO of the HD Digital Radio Alliance.

local broadcasters. ... Just like it does today. ... At the end of the day what's important is that the individual broadcasters, and not just the alliance broadcasters, all of them, including [noncommercial stations] have to self-promote their content.

RW: Are there noncom broadcasters that are members of the alliance?

Ferrara: They can't be technically because of the way the alliance is set up. It's set up as a commercial-oriented type of thing where both money and time is being given to the alliance.

Having said that, we have had a lot of non-alliance members, some noncoms, who have come and said, "I love the stuff you're doing, it's great, it's interesting, it's creative, can I use your materials?" And we've said, "Absolutely. Go to *hradioalliance.com*." Because a lot of our 'quote-unquote' commercials aren't sponsored commercials. They're focused on HD Radio [overall]. ... We've got people running those independently, which we fully encourage.

We have other commercial broadcasters who are not members of the alliance, independent owner-operators in medium and smaller markets who have said, "The

alliance doesn't make sense for me because I'm just a single radio station out here in Cedar Rapids, Iowa, but can I run your commercials?" And the answer is "Absolutely. Run them all."

RW: How do you reply to the naysayers who say the HD2 formats are still too dull and nothing different than what's on now?

Ferrara: I think the naysayers just are looking for something to say nay about. The reality is if you listen to the content that's on the air, if you turn on the radio and if you listen actively to HD2, there's some great stuff on the air.

And understand, we're in the early stages of those product developments and like any other new format, HD2 or not, part of that is the experimentation phase. Part of that is the trial and error phase. Part of that is finding something really unique and creative that rings true to the

consumer.

Think back to the days of the emergence of FM. It's very similar. Most of the great FM formats and many of the great FM programmers that emerged came out of this phase of experimentation. ... There was this radical new thing called AOR, and we were going to play cuts off of albums.

That same sort of thing is going on now and I think what's happening is both the programming people are being given a very clean canvas to work with and saying, "Go create." They're having fun. They're doing stuff. Are they going to make mistakes? Of course they are. But you know what? I guarantee you we'll get it right.

RW: What you like to have accomplished by the end of '07?

Ferrara: Obviously, I would like for this time next year for HD Radio to be considered one of the really front and center hot gifts for the holidays, because if we can do that that means that throughout the year we have dramatically increased consumer awareness and consumer demand.

And at the end of the day that's my number one job. Nothing is more important. Whether it's programming format coordination, whether it's creating partnerships with receiver manufacturers and retailers or automotive. The number one thing all of that focuses in on is creating consumer awareness and demand.

So, if a year from now, we've raised that level of awareness and that level of demand to the point that HD Radio is

easy to buy, it's at a great price point and it's something that a lot of people want to go out and get for Christmas, I think that'd be a real good 2007.

RW: The iPods are getting so much buzz. How can HD Radio break through and gain some of that attention?

Ferrara: Our objective with the iPod, as with the cell phone as with other digital devices, is to become integrated as part of those devices. Right now, one of the items that Apple sells is an accessory. It's actually a very popular — and [has a] high sell through rate — is their little FM adapter that goes on the iPod. They sell a ton of those things.

Our hope is, and working with them and with the technology side of it, that we will integrate HD Radio in all of those devices. It will become part and parcel to everything that's out there in the digital space.

RW: Do you have a timeframe for when that might happen?

Ferrara: No timeframe, because we're operating in this developmental R&D world. I can tell you that we're certainly pushing in that direction. We're having those conversations.

RW: Is there anything else we should know about your plans?

Ferrara: To underscore the fact that the alliance needs to be both reactive to opportunities as they emerge and we need to be proactive in going out and creating opportunities. We have to be swift on our feet to make sure we do both.

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Newswatch

► Continued from page 2

associations urged FCC Chairman Kevin Martin and other commissioners to recognize the need to reform the media ownership rules.

Pointing to increased competition from non-regulated media such as cable networks, satellite operators, alternative print publications and the "virtually unlimited voices available on the Internet," the group asserted in a letter that the assumptions in which FCC media ownership rules were adopted have changed.

"Technological and marketplace developments — especially the growth of multi-channel programming distributors and the Internet — have fundamentally altered the

landscape in which the commission's ownership rules were originally adopted," wrote the companies, including radio broadcasters Clear Channel, Bonneville, Citadel, Cox and Entercom. "As a result of this explosion of outlets and new technologies, television and radio broadcasters are experiencing unprecedented challenges in maintaining their audience shares and the advertising revenues essential to the survival of non-subscription media."

The companies added: "The commission should modernize its local ownership rules to reflect these dramatic changes in the media marketplace, and to ensure that local television and radio broadcasters, as well as daily newspapers, are not unfairly hampered in their ability to serve the public by outmoded regulations that limit them and not their competitors."

Reply comments on the proposed media ownership rule changes (MB Docket 06-121) were due to the FCC in late December.

Economic Studies to Help FCC on Ownership

WASHINGTON The FCC is conducting 10 economic studies of issues related to its media ownership proceeding.

The topics are "How People Get News And Information," "Ownership Structure And Robustness of Media," "Effect of Ownership Structure and Robustness on the Quantity and Quality of TV Programming," "News Operations,"

"Station Ownership and Programming in Radio," "News Coverage of Cross-Owned Newspapers and Television Stations," two studies on "Minority Ownership," "Vertical Integration" and "Radio Industry Review: Trends in Ownership, Format, and Finance."

Democrat Commissioners Michael Copps and Jonathan Adelstein questioned the timing and scope of the studies, saying they are not specific enough. They also criticized the timing of the announcement, right before Thanksgiving.

News Roundup

EDISON MEDIA RESEARCH is holding a talent search for 30 young broadcasters who are making a name for themselves in the industry in response to the lack of young people pursuing a career in radio. Edison's Tom Webster states in "Wanted: 30 under 30" at www.infinitesimal.com, "Radio's managers have story after story about the 15-year-old who would rather work at Pizza Hut because it pays more. Gaming and technology hold the sway over an 18-year-old that radio used to." Edison will reveal the results in February.

CBS RADIO said it now streams 100 stations, or 70 percent of its stations. It launched its first stream of its all-news stations in 2005 and the network says it has amassed close to 4 million registered users of CBS Radio online properties to date.

ANNE SANTOS is now director of operations at Research Director Inc. The Annapolis, Md.-based company said Santos would be important to the audience research firm's integration of Arbitron's PPM measurement into its existing service. Santos comes to RDI after seven years at Arbitron where she was most recently manager of PPM Analysis and Reporting.

JASON OXMAN is CEA's vice president of communications beginning Nov. 27. Oxman was the managing director of Law Media Group LLC, a public affairs firm that provides communications and strategic counsel to Fortune 100 companies. He has also worked at the FCC and as a radio reporter. Oxman replaces Jeff Joseph, who left CEA this summer.

WACHOVIA CAPITAL MARKETS studied broadcast corporate governance policies, using proxy statements to determine which publicly traded companies had the best and worst policies. The highest scores were logged by Entravision and Gray Television, followed by Cox Radio, Entercom, Saga Communications and Lin TV. The worst performers of the group were Citadel, Cumulus, Emmis and Lamar Advertising. Better governance, Wachovia believes, could equate to an average "upside potential" in stock prices of around 25 percent.

BEASLEY BROADCAST GROUP marked its 45th anniversary in December. It was founded in 1961, in Benson, N.C., by George G. Beasley and is now headquartered in Naples, Fla., It has 43 radio stations in 11 markets.



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Chris Wilk
Engineer, WFLS
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"The results [with ACCESS] were especially reliable considering that Dharamsala has one of most "problematic" Internet infrastructures that we have come across." — David Baden, Chief Technology Officer Radio Free Asia

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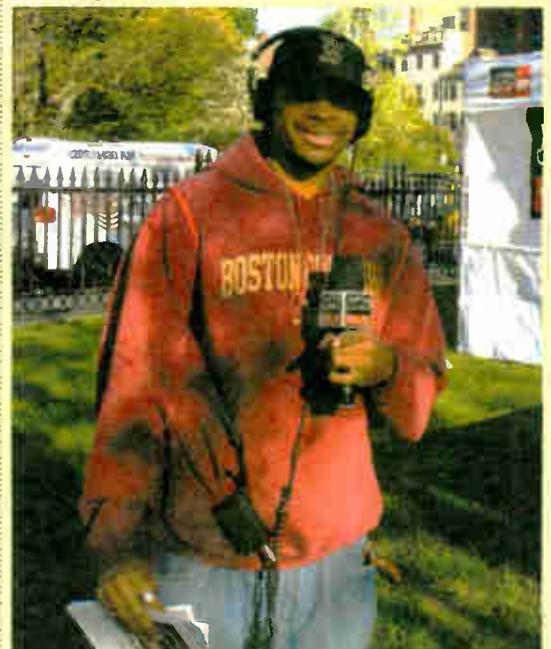
➔ Ski Mountain Remote



This picture, really demonstrates what ACCESS is about. This product truly has the ability to cut the wires.

For the complete story visit
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➔ JAMN 94.5—Walk for Hunger



"ACCESS was used on the air exclusively for JAMN945 at this one. It was all over EVDO with a tremendous amount of active cell phones in the area. The ACCESS was connected to the Verizon wireless Broadband...

For the complete story visit
<http://remotebroadcasts.blogspot.com>

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COMREX

Coverage

► Continued from page 1

standing of how IBOC signals propagate and interact is getting closer, yet still remains out of reach. One thing engineers seem to agree on is that characterizing digital radio coverage and interference is a tricky proposition.

At the NAB Radio Show in Dallas in September, engineering consultant and propagation software entrepreneur Doug Vernier suggested avenues for further research to assist engineers as they put this new technology through its paces. He summarized the industry's understanding of IBOC coverage and performance issues and presented several real-world examples of coverage and interference problems.

Coverage, 'moving target'

Through his consulting work, Vernier said, he has learned a lot about IBOC, and he took pains to remind engineers that they shouldn't be overly pessimistic about it. "The sky is not falling; pieces are just loose," he quipped.

Vernier was quick to point out many of the advantages of the HD Radio system as compared to analog radio, including improved reception in multipath environments, fewer listener-perceived impairments, improved stereo separation, improved AM audio quality, data and synchronization capability and multicasting, all with what the NRSC characterized as "similar coverage."

However, Vernier said, the meaning of "similar coverage" has been a moving target throughout the digital rollout.

Although early coverage tests of IBOC by Ibiquity and its precursor USA Digital Radio set the minimum signal level as low as 45 dBu, below which the receiver is expected to "blend" to analog, experience suggests that a higher level is more realistic.

In NPR's Tomorrow Radio multicast testing, consulting firm Hammett & Edison estimated the blending threshold as high as 66 dBu based on the four stations tested, and Ibiquity itself now recommends that at least 55 dBu be used as a design target, according to Vernier.

Further complicating the issue, he continued, recent field measurements of 26 stations analyzed by NPR Labs found that the blend threshold varied from 50 to 75 dBu, suggesting that the minimum level of digital coverage can vary widely among stations and markets.

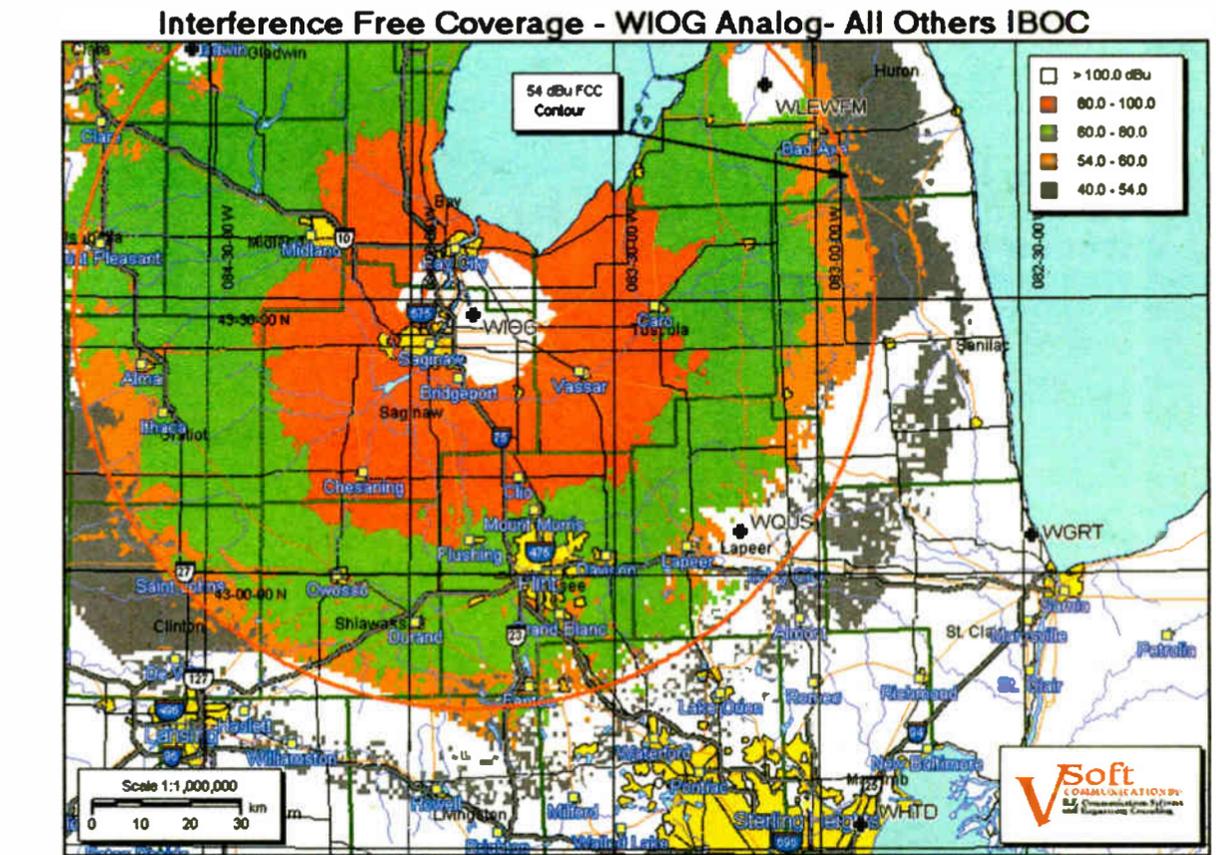
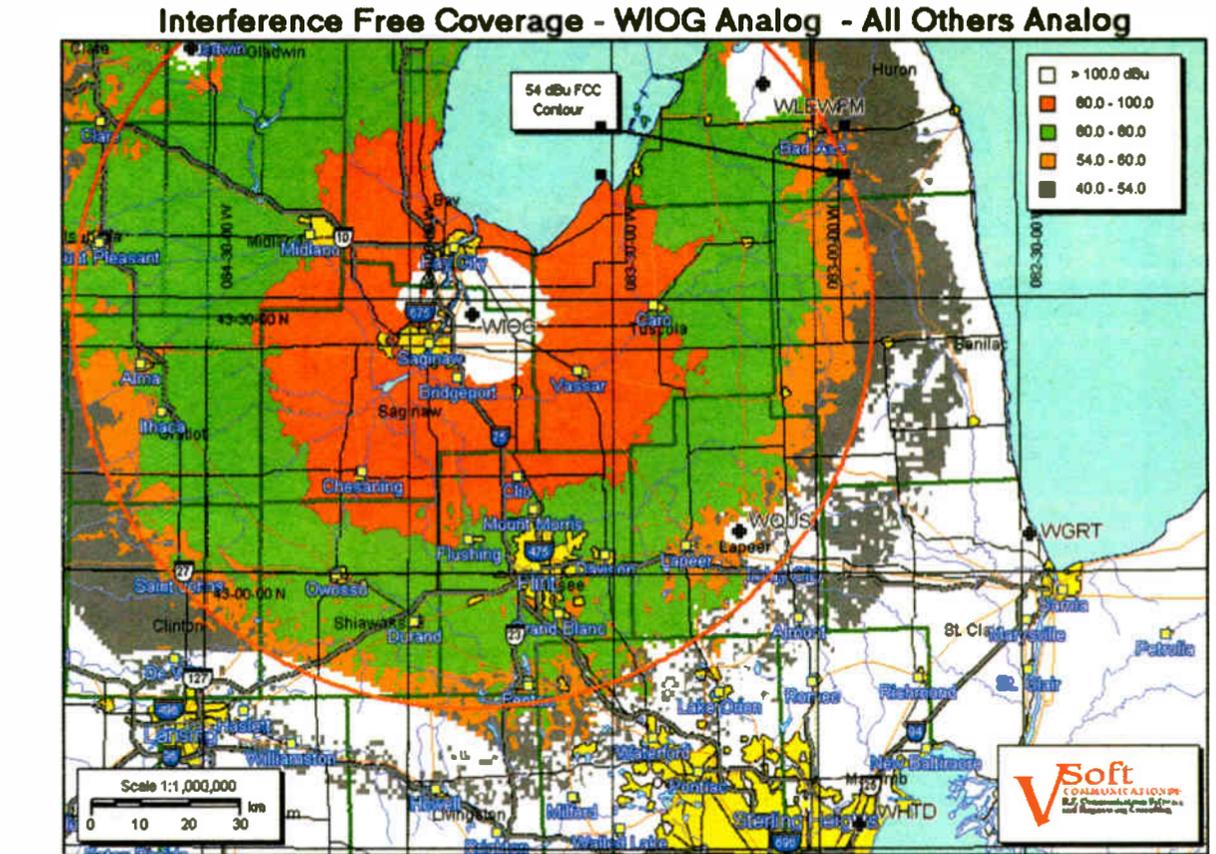
Clearly, further research in this area is warranted, Vernier said, because a complete understanding of how various systemic, environmental and propagation factors affect minimum signal levels will be critical to optimizing stations' IBOC coverage.

Questions about minimum signal levels aside, FM HD Radio operation presents a host of potential reception problems and limitations, according to Vernier, including first-adjacent-channel interference, vulnerability of the HD signal to interference from dual first-adjacent stations, signal-to-noise ratio reduction in the analog host, reduction in analog fringe coverage, reduced immunity to rapidly repeating impulse noise, poor building penetration, blend-to-noise behavior in poor analog signal areas and digital reacquisition dropouts.

Host compatibility on particular receivers is another concern, he asserted. Tests conducted at the Advanced Television Test Center indicated that although automotive receivers exhibited no measurable change in signal-to-noise of the analog stereo FM when an IBOC signal was added, portable receivers saw reduced signal-to-noise performance ranging from -3 to -12 dB as compared to a reference signal. Wideband receivers, such as modulation monitors or audiophile-grade home tuners, also are prone to noise problems when tuning stations broadcasting a hybrid digital signal.

Host compatibility dilemma

Dual-antenna space combining transmission systems can present a significant host compatibility problem, especially at locations at very low elevation angles from the antennas, where the antenna patterns tend to diverge and the necessary power ratio between analog and digital components is not able to be maintained. For one station in the Minneapolis area, Vernier said, interference to the analog signal from a newly constructed digital-only antenna in a heavily populated area within two miles of the transmitter site was so bad that the station removed



A comparison showing the "baseline" analog interference-free coverage of WIOG(FM), Bay City, Mich. while the other shows the "bites" taken out of its coverage to the southeast by all other stations' IBOC interference.

the digital antenna and built a high-power combined system, despite significantly higher costs.

Spectral re-growth of digital signal components, caused by non-linearities in the transmission chain, can be another source of IBOC frustration, especially at densely populated shared transmitter sites. Vernier related an example of one station that generated significant "grunge," or wideband noise, on the first- and second-adjacent channels, wiping out several translators operating at the same location and requiring the installation of an expensive high-power band-pass filter to correct the problem.

To show the potential impact of adjacent-channel interference in real-world situations, Vernier presented a series of maps illustrating modeled coverage of actual interference situations. After seeking reports of IBOC interference, readers of several broadcast-related list serves provided their examples to him. He said he was "somewhat surprised by the volume of responses received."

Using interference ratios derived from research pub-

lished by NAB, ATTC and other sources, Vernier modeled the coverage of interfering stations with the Longley-Rice propagation modeling algorithm for a variety of situations, then calculated the predicted interference areas.

The three examples included in Vernier's presentation — from the Los Angeles-San Diego, Chicago and Detroit-Bay City areas — all involved short-spaced or grandfathered superpower first-adjacent channel stations, situations that are not uncommon in congested markets.

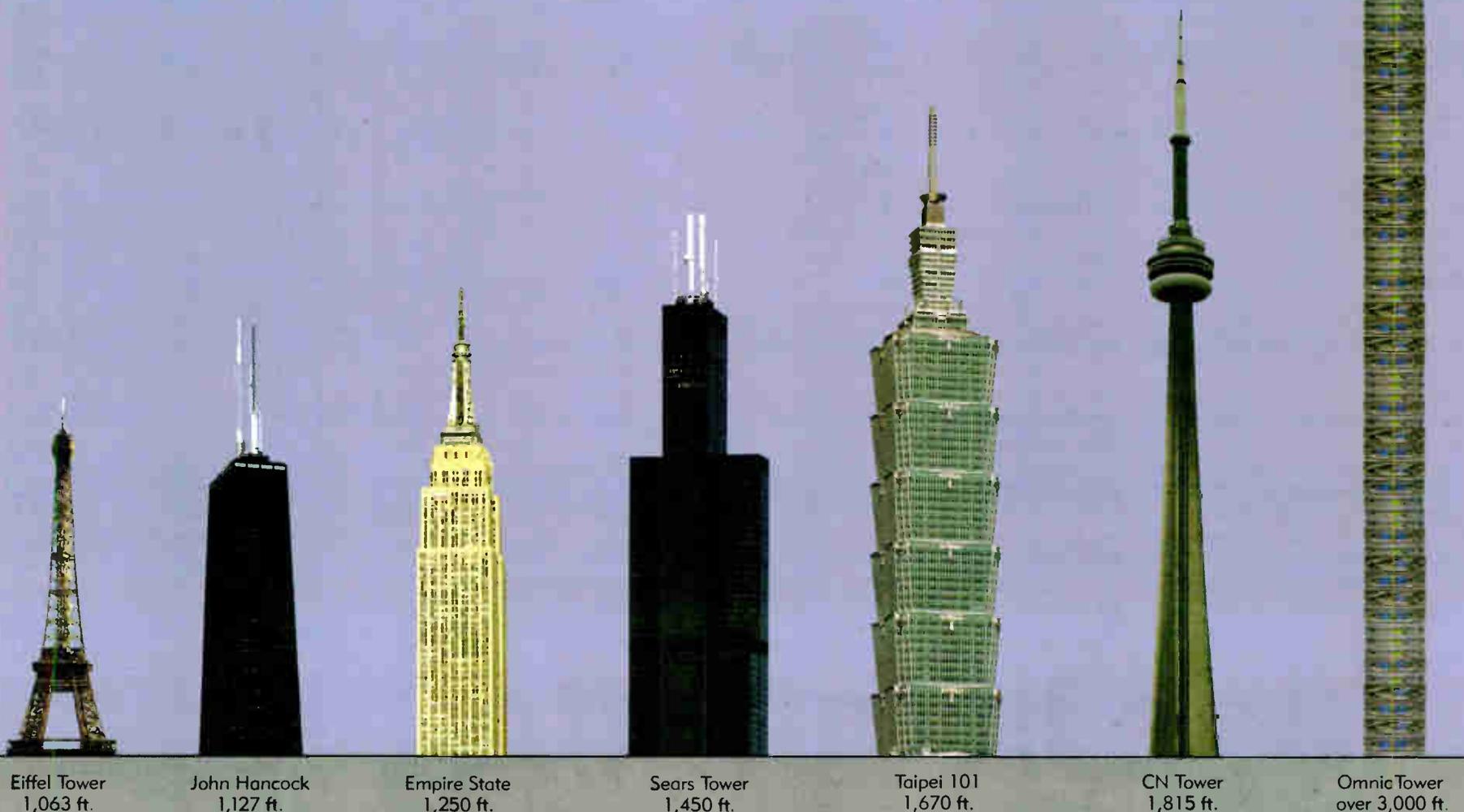
Comparing maps showing predicted analog "baseline" interference-free coverage with maps showing the effect of predicted hybrid digital interference on analog coverage, Vernier described the digital interference as taking "significant 'bites' out of analog coverage." Encouragingly, when digital-to-digital interference was calculated, interference areas were much smaller than even the analog baseline cases, he said.

IBOC for the AM service has its own unique set of

See COVERAGE, page 10 ►

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Speaking of heights, did you know that Omnia processing now powers stations broadcasting from every one of the famous structures pictured above?

Big or small, isn't it high time you upgraded to Omnia?

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Engineers Compare New HD Radios

NPR Labs Rates Four Digital Receiver Products for Performance

by Leslie Stimson

Let's say you're shopping in a consumer electronics store. You have several HD Radios in front of you. Unless they're all turned on, with working antennas, how would you be able to compare them before you buy?

That's the dilemma NPR Labs wanted to help member stations and listeners solve. So the researchers issued a list of recommended HD Radio receivers and released it ahead of so-called "Black Friday," the important shopping day after Thanksgiving when many stores "go into the black" for the year.

Contrary to at least one published report, this was the first such list from the group. The engineers assessed a total of four low-cost radios and stated that they "deliver first-rate technical performance and are easy to operate."

The assessed radios were two tabletops, a car adapter and an aftermarket unit. They are the Boston Acoustics Receptor HD, the RadioShack Accurian, the Kenwood KTC-HR100TR HD Radio Adapter and the JVC KD-HDR1 aftermarket radio.

Pleasing to consumers

"We believe that each of these units represent a good value and will please most consumers," the NPR Labs team stated in its report.

HD Radio receiver assessment is an ongoing activity, said Jan Andrews, senior engineer for NPR Labs. However, for this project the group focused on radios "at the most appealing price points," said Mike Starling, NPR vice president/chief technology officer and executive director of NPR Labs.

"We collect different data spread out over long periods of time, and get every-

body's opinion on the different factors on this radio vs. that radio," said Starling. "We basically get a mini-focus group of experienced engineers that bring their collective wisdom and observations to bear on how we rank or assess this product."

In the report, NPR Labs included the availability, features, performance and resources for all the radios and installation notes for the two auto products.

Andrews and Starling said they received favorable feedback from member stations and board members, who called it the first time they'd seen a detailed analysis of the receivers in one place. NPR Labs plans to issue more reports, though not on a published schedule.

Asked if there were any surprises, Starling and Andrews cited the Accurian, given the low price — \$99 over Thanksgiving weekend and now \$174.99 with rebate until Jan. 14.

Under "performance," NPR Labs rated the Accurian as having "good AM sensi-

tivity when used with supplied external AM antenna." In contrast, the AM sensitivity for the Receptor was deemed "adequate ... when supplied external AM antenna is substituted for internal AM antenna."

Engineers and other station personnel are sharing their HD-R store experiences with the lab.

Black Friday experience

Andrews said, "The anecdotal feedback

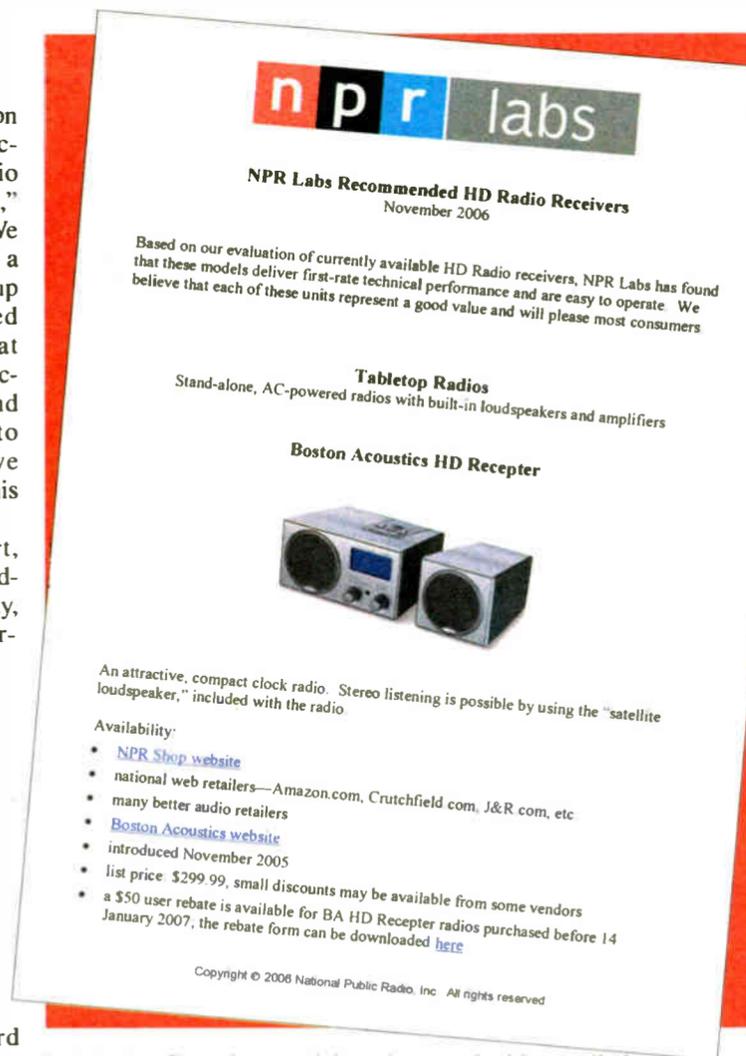
we're getting about putting the Accurian and the Receptor side-by-side, is that stores usually don't have them set up right," making it tough to impossible to compare them before a purchase, he said.

Indeed, Starling relayed his Black Friday experience at his local RadioShack. "I had to set up the Accurian. ... They had it way inside the store under some fluorescent lights and next to some computers. It was playing FM okay but it wouldn't lock onto HD.

"So I said to the guy, 'You've got all this space by the window. Why don't we slide down there?' So I did and all the HD and multicast stations came in; and he said, 'Wow, this makes all the difference. I had no idea this is what you've got to do.'"

Starling purchased all the Accurians in the Derwood, Md. store, including the display model. Summing up that particular retail experience, he said, "The retailers are learning as well."

To see the report, go to www.nprlabs.org and click on the PDF file labeled "HD Radio User Information," updated 11/21/06.



Coverage

► Continued from page 8

problems, according to Vernier, including interference to adjacent-frequency analog stations from hybrid digital stations, significantly reduced power for nighttime digital operation and the mutually exclusive trade-off between analog bandwidth and data robustness in the digital sidebands.

Vernier analyzed the coverage of several stations operating with hybrid IBOC that were reported to have caused interference to adjacent-frequency analog AM operations in Nevada City, Calif., Ann Arbor, Mich., and Lima, Ohio. In all cases, he said, the interference was occurring in directions from the digital station where the antenna radiation pattern was designed to have deep nulls.

To illustrate how these stations could be causing interference in directions where they are not supposed to be transmitting much energy, Vernier displayed a plot provided by Ron Rackley of du Treil, Lundin & Rackley showing the projected patterns of a directional antenna for a station on its intended frequency, as well as the upper and lower first-adjacent channel frequencies with the pattern bandwidth of the antenna system taken into account.

In this example, the radiation pattern on the lower first-adjacent frequency showed significantly greater signal strength in the directions of the nulls and the back lobe of the station's intended pattern. This suggests, Vernier said, that flat pattern bandwidth of AM antenna designs is critical for interference-free operation, or "it is very possible that a given station's protection toward an adjacent station will fall apart."

"The scale of IBOC interference on analog coverage is unknown," Vernier concluded, but it is likely to get worse before it gets better, as new stations begin to operate in hybrid mode. Going forward, he says stations can expect to see more digital-to-analog interference caused by AM patterns "behaving badly," FM short-spaced stations, overpower grandfathered stations, stations that have contour overlap despite meeting minimum spacing requirements, dual antenna installations, and "grungy" installations. 🌐

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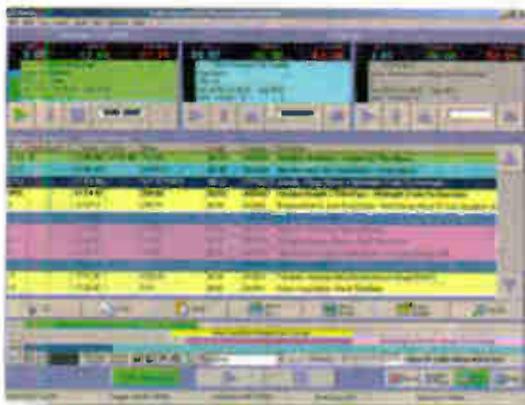
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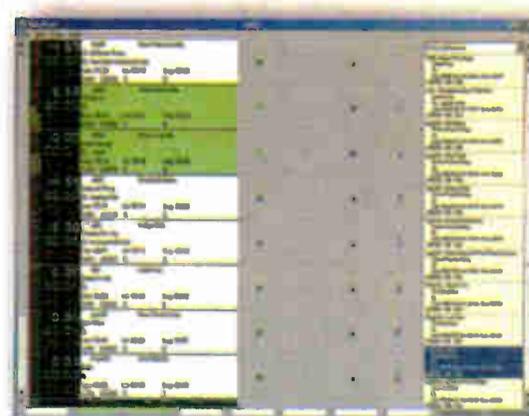
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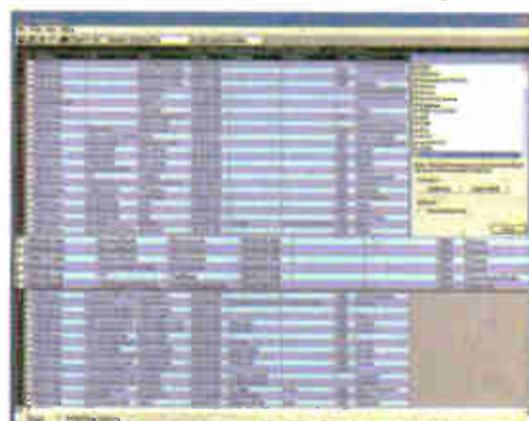
SkimmerPlus - skimming and audio logging with web playback.

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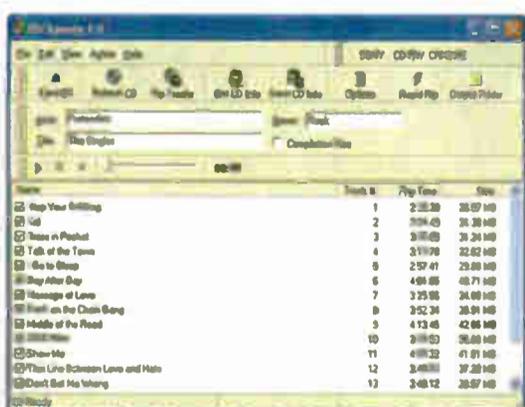
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You think we have a lot to say? You should hear our clients.

When we asked our clients which Element features they liked best — well, you see the results. And this is the *edited* version. (Good thing we bought two pages.)

Go (con)figure • The folks at MPR say they really love being able to configure their Elements and keep tabs on their entire Axia network using standard Web browsers. You can set up and administer an entire building full of consoles from the comfort of your own office (where there's plenty of Cheetos and Pepsi). Put an Internet gateway in your Axia network and you can even log into Element remotely, from home or anywhere else there's a Net connection. Great for handling those 6 P.M. Sunday "help me!" phone calls from the new weekend jock.

Screen play • Element lets you use any display screen you choose, to suit your space and décor. Get a space-saving 12" LCD, or go for a big 21" monster. (This is Dave Ramsey's favorite Element feature, by the way. Anyone wanna bet he bought his monitors on sale?) Hook up a VGA projector and make a Meter Wall!

Perfect timing • You can't have too much time. That's why Element's control display contains **four different chronometers** to help keep talent in sync: a digital time-of-day readout that you can slave to an NTP (Network Time Protocol) server, an elapsed time event timer, a countdown timer talent can set for any interval they choose... and there's also that big, honkin' analog clock right in the center of the screen (Big Ben chimes not included). We wanted to make it even bigger, but our screen designers charge us by the pixel.

Where's Waldo? • Hide and seek is a pretty fun game. But not when you're in a hurry, and definitely not when you're on the air. So every Element fader comes with a big, **bold 10-character LED display** right above it to show talent, at a glance, exactly what source is assigned to that fader. If it's music from a digital playout system provided by one of our partners, the display can even show the title or artist of the song that's active. Talent tells us that these displays are at the perfect angle for either sit-down or stand-up studios.

Black velvet • What's 100 mm long, silky smooth, goes up and down all day and **lasts forever**? Our super-quality conductive-plastic faders, of course. (You have a filthy mind, mister. Shame on you.) We sourced the most durable, reliable, premium faders and switches for Element. And we added extra touches, like the custom-molded plastic bezels that protect on/off switches from accidental activation and impact. Because we know how rough jocks can be on equipment — some of us were jocks, not rough. And because we also know there's nothing more embarrassing than a sudden case of *broadcastis interruptus*.

Audio cards • Well, um, there actually aren't any. Not in Element, or anywhere else in an Axia network. Why not? Think about this: your production guy spends hours crafting exciting, finely-tuned bits of broadcast magic, only to filter them through a card sitting in a noisy, RF-filled PC. It's like washing a wedding dress in the Hudson River. Not only that, broadcast audio cards are expensive. And they only work in PCI slots. How many of those are you seeing on new PCs? The **Axia IP-Audio Driver** installs on any Windows™ PC to send and receive pure digital audio right through the PC's Ethernet port — no sound card required. You get better, cleaner PC audio that's shareable right to the network. And you save tons of dollars in sound cards, and on the audio inputs you would have needed for that PC case jockey — more than enough to buy your local one-customer studio you've been kidding about.

Options • Clients say they love Element's uncluttered worksurface. We kept it clean by placing an "Options" key over each fader to give instant access to all the advanced goodies. It makes customizing settings easier than selling fudge cake to Dom DeLuise.

Great Phones • We wanted the phones on Element to work like an extension of the board-ops themselves. Unfortunately, talent objected to having Ethernet ports implanted in their skulls, so we came up with the next best thing. With Element, jocks never have to take their eyes off the board to use the phones. Element works with any phone system, but it really clicks with the Telos Series 2101, TWOx12, or the new NX12, which connects four hybrids plus control with a single Ethernet cable. Status Symbols™ (those cool little information icons) tell talent at a glance whether a line is in use, busy, pre-screened, locked, or idle, etc. This can even dim the phone light from the board using the integrated keypad.

Who are these guys? • Why buy a console from Axia? Element was designed by Mike Dosch and his team of ex-PR&E renegades (who know a bit about consoles). And Axia is a division of Telos, the DSP experts.



Fried Chicken

Conductive aluminum foil tape is connected to a 40-watt storage capacitor that can be activated with a GPIO line. Set up a remote remote trigger for the PD to give the jocks a little "position feedback".



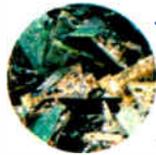
« "Necessity is the mother of invention." So we invented IP Audio for broadcasting: realtime, low latency routing where logic & mix minus follow audio. Thanks Mom!



« Those other guys are really proud that they've built a couple dozen routers. We use Cisco switches to power our networks. Guess how many *they've* built?



« At Axia, "remote" is our favorite word. As in "remote control," "remote maintenance," "remote diagnostics." So your life doesn't have to go on without you.



« Soundcards? How quaint. Our IP Audio driver for Windows sucks audio right out of computer NICs, like pimientos from martini olives. Mmmm... olives.

Meter reader • LED program meters? How very 1990's. Element's SVGA display has lots of room for timers, meters, annunciators (*there's a five dollar word*) and more -- enough to show meters for all four main buses at once. Reboot the console to 5.1 surround mode and the light show is even cooler. Any more bling and those fast 'n furious types'll want it for their dashboards.

Status Symbols • There are those icons again (We're in love with icons. It's the Telos way.) These Status Symbols alert talent to phone lines ringing, mix-minuses minusing, talkback channels, etc. They can even display fader numbers, like you see here. Just one more way Element makes it easy for talent to do a fast, clean show.

How many? • How many engineers does it take to change these light bulbs? None... they're LEDs.

Swap meet • Element modules are easy to hot swap. Remove two screws and a cable or two, and they're out. In fact, you can hot swap the **entire console** -- unplug it and the audio keeps going, because mixing is done in an external Studio Engine.

Can I play with your knobs? • Twist 'em, push 'em, make 'em click. Element comes standard with some pretty powerful production features, like per-fader EQ, voice processing and aux sends and returns. Context-sensitive SoftKnobs let production gurus easily tweak these settings, while simultaneously satisfying their tactile fixations. (Don't worry: for on-air use, you can turn off access to all that EQ stuff.)

Memory enhancer • We know how forgetful jocks can be, so Element remembers their favorite settings for them. Element's Show Profiles are like a "snapshot" that saves sources, voice processing settings, monitor assignments and more for instant recall. Have talent set up the board the way they like it, then capture their preferences with a single click for later use. (Hey, make *them* do some work for a change.)

"snapshot" that saves sources, voice processing settings, monitor assignments and more for instant recall. Have talent set up the board the way they like it, then capture their preferences with a single click for later use. (Hey, make *them* do some work for a change.)

Stage hook •

This button activates the emergency ejector seat. CK, not really. It's the Record Mode key; when you press it, Element is instantly ready to record off air phone bits, interviews with guest callers, or remote talent drop-ins. One button press starts your record device, configures an off-air mix-minus and sends a split feed (host on one side, guest on the other) to the record bus. Like nearly everything about Element, Record Mode is completely configurable -- its behavior can even be customized for individual jocks. Sweeeet.

Coffee? •

No console is spill-proof, but Element is easy to service and has no motherboard to damage in the event of stupidity.

It's already in there •

Element comes standard with a lot of cool goodies you'd pay extra for with other consoles. Like custom voice processing by Omnia™ that lets you quickly build and capture compression, noise gating and de-essing combinations for **each and every jock** that load automatically when they recall their personal Show Profiles. (There's even a secret "Big Balls" setting that makes wimpy interns sound like John Leader. A fifth of Chivas to the first guy who finds it.)

Talk to me •

Need some one-on-one time with your talent? Talk to studio guests, remote talent, phone callers -- talk back to *anyone* just by pushing a button.

Mixmaster •

Does the thought of constructing a complicated mix-minus on-the-fly bring a big grin to your face? If so, you're excused (Masochism 101 is down the hall). But if you hate building mix-minuses manually as much as we do, you'll love the fact that Element does them for you. No more using all your buses for a four-person call-in; no more scrambling to set up clean feeds for remote interviews. When you put remote codecs or phone calls on-the-air, Element **automagically** figures out who should hear what and gives it to 'em -- as many custom mix-minuses as you have faders.

Push my buttons •

You can program these custom button panels with any macro you want, from recorder start/stop to one-touch activation of complex routing switches and scene changes using PathfinderPC™ software. You can probably even program one to start the coffee machine (black, no sugar; thank you).



www.AxiaAudio.com

PPM

► Continued from page 1
PPM encoding for the week and during the SBE meeting.

When the encoder was installed, we sent an e-mail blast to the membership of SBE 15 asking engineers to tune in WOR at some point over the time between installation and the SBE meeting to see if anyone could hear the encoding on the air.

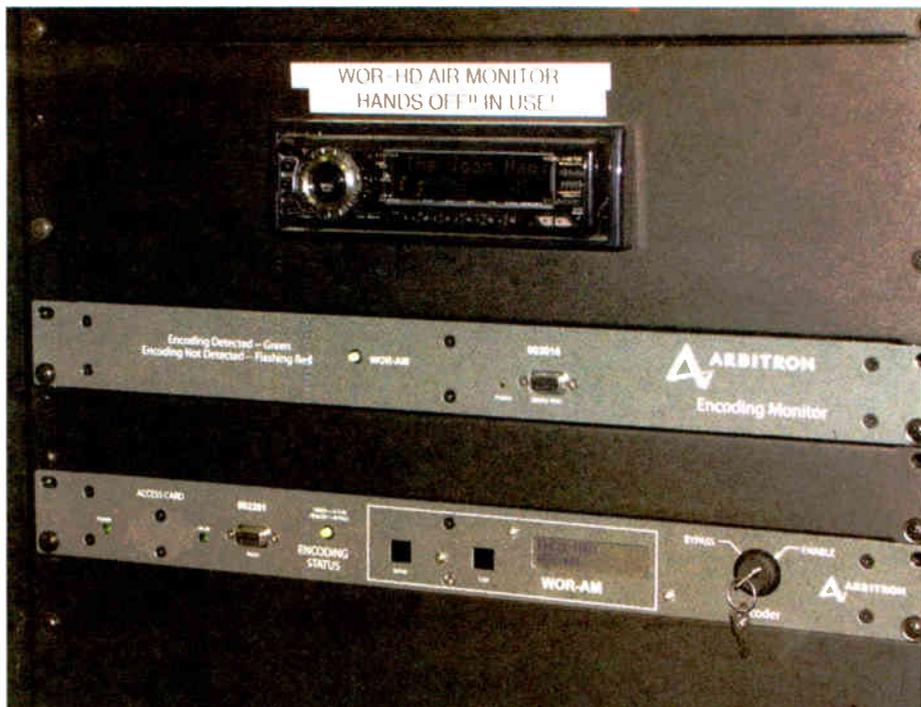
The encoding package includes the Arbitron PPM encoder or encoders and a monitor so that you can tell if your encoding is working. One of the concerns of New York engineers was that we might be limited to one encoder per station.

Is this thing on?

Most of us have several completely redundant paths to deliver audio from studio to transmitter, with separate paths at the studio, then separate STL paths to the transmitter, and even having separate paths between the STLs and the transmitters. Also, some of us have more than one transmitter facility.

Arbitron will fully outfit each station as required. If you need five encoders and want one on the shelf as a spare, you will get five encoders and one to stick on the shelf. If you replace ads on your Internet feed, you will get a separate encoder for your Internet feed.

The encoder is a rack-mount box, one RU high. There are two versions available, AES and analog.



There are two versions of the PPM encoder, AES and analog.

WOR installed the analog PPM encoder on a backup path. Installation was literally a five-minute job.

I also ran a coax from the encoder's time sync input to one of our GPS master clocks so the encoder would be time-locked. If a station does not have a time base, the internal clock on the encoder has a specified accuracy of 1.7 minutes per calendar year.

Additionally, the time sync input will sync to almost every time standard found

in broadcast facilities.

That was the installation of the encoder. Quite boring. There is nothing to adjust, and it is intended to go between your pre-processing and the main processing of the station. The encoder is expecting a nominal +4 audio input. Once it sees audio, it will start encoding.

The PPM monitor is also a 1 RU box. It takes audio in from an off-air radio. I fed it from the modified HD-R car radio we use to monitor. The monitor will provide a contact closure to trigger an alarm of your choice.

There is also a big LED on the front that is normally green, but will shine bright red if there is a problem. After all, encoding the PPM data will be just as important as being on the air!

I think everyone knows how Arbitron gathers listening information right now. A person is asked to write his or her listening habits down in a diary for one week, and then send the diary back to Arbitron.

Listening, shopping habits

With PPM, everyone in a household will be given a meter to carry. The commitment from individuals participating in the program will be two years.

Each meter has a docking station. All docking stations communicate with a central hub/modem through the house wiring. Right now, all participating households have wired phone lines. Arbitron is working on a cellular (wireless) modem for those who do not have wireline phones.

The modem phones home nightly to send data to Arbitron. What happens if a participant forgets to dock the meter at night? The unit has about a capacity of about one to two weeks, so you could theoretically go on vacation and dock it when you return. Which brings up another interesting point. If I have a PPM meter and go on vacation to Phoenix to see my mom, all the information I upload to Arbitron will be on the Phoenix area.

They did not have an answer for us at the meeting as to how this data would be interpreted and/or reported.

In addition to radio stations, television stations can be encoded; commercials can and are being encoded, as are network programs. Additionally, it is not inconceivable that venues such as the PA system at Giants Stadium, the local mall and all its individual shops can be encoded.

If Arbitron were to encode the PA system in Giants Stadium, the PPM

would hear the encoding when the participant attended a Giants game. Attend every game or a majority of games over the course of the season, and it would be assumed that this person has season tickets.

If Arbitron makes the data available, you will literally be able to see that, for example, the typical WOR listener has season tickets to Giants games, frequents the Garden State Plaza mall, shops frequently at Neiman Marcus and Macys at Garden State Plaza, and has lunch in TGI Fridays. This information could be a boon for sales departments, but can also be very scary in its detail.

By encoding the PA systems of a venue, whether it be the mall, a store, Starbucks, Giants Stadium or Joe's X-Rated Theater and Toy Store, if there is encoded audio where the person and his/her PPM is, the PPM will report.

If you're someplace that simply has a radio on, it will report what station you were on at the time of your visit, but not necessarily where you were in the smoke shop. If Macy's encoded its PA Muzak system, it would know you went to Macy's. If each Macy's were to have encoding specific to that location, Arbitron could tell which Macy's you were in.

The PPM is also motion-sensitive and it is intended to be worn. If you take the PPM off and simply set it on a counter, and say that WOR was on the kitchen radio, our ratings would be weighted differently than if the person was wearing the PPM in the kitchen. This is to keep people from simply placing the PPM near a radio, turning the radio on and leaving the meter there all day.

Inaudible

During the presentation by Arbitron Broadcast Engineer, Encoding Operations Dan Hunt (who's also an SBE member), we had placed a cheap, lousy AM radio on the windowsill of the WOR conference room. Hunt wore a Portable People Meter during his presentation.

He then docked the unit and displayed the data on his laptop computer. There it was right up on the screen. The PPM can "hear" fairly low levels of audio, and part of the docking procedure is a brief 2 kHz tone that checks the meter to make sure it's not going deaf.

The PPM encoding works on the principal of psychoacoustic masking, which says that the human ear cannot resolve a frequency immediately adjacent to another frequency that is dominant. The encoder looks at the incoming audio, and then places the data appropriately so that a human, at least, does not hear it.

The data is in the 1 kHz to 3 kHz area, and Arbitron can check its operation by a station engineer holding the phone up to a radio speaker. Latency through the encoder is practically zero, as the audio is simply passed through a mixing stage.

The data is mixed in after the fact. Not one member of SBE 15 was able to hear the encoding on the air. I also did not see any changes in the characteristics of our processing or modulation.

Life in this business is about to become different once again with the arrival of the Portable People Meter. The first New York book to include the PPM data will be in the fall. I will report on the system again once everyone in the city is running it.

Radio World welcomes your experiences with new technologies including electronic measurement systems. Write to radioworld@imaspub.com.

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Workbench

Radio World, January 3, 2007

Past columns are archived at radioworld.com

UPS ♥ Generator: A Happy Marriage

by John Bisset

Solving a problem gives any engineer a boost. But if we solve it using items from the junk box, well, that really makes our day.

Consider the phasor or pattern controller. It's not an issue when located at an out-of-the-way transmitter site; but collocate these pushbuttons with a studio and at some point someone's going to want to experiment.

For sure, mode change may be tied to the remote control. But having selection access for maintenance is helpful. The issue is how to keep curious fingers at bay.

Harry Bingaman, engineering manager for Sunbury Broadcasting, fashioned a removable switch cover, seen in Figs. 1 and 2, using spare parts. The panel can be removed easily for maintenance access, and the cover keeps the switches "out of sight and out of mind."

★★★

Here's a neat idea: Combine a heavy-duty road case with built-in electric cooling fans!

California-based Road Ready Cases is where you find "Cool Cases" that bring much-needed relief for remote broadcasters as well as production companies.

The Cool Cases line will cool live gear by an average of 12 degrees F. The company looks for new ways to further the life of customers' gear; this built-in safeguard, seen in Fig. 3, will guard against overheating. Note the built-in transport rollers. No more hand truck!

The company's motto is, "Built for the Rigors of the Road." Give 'em a look if you need a heavy-duty case for your remote or PA equipment.

For information on Road Ready Cases and the company's product catalog, go to www.roadreadycases.com.

★★★

Ron Schacht works for Three Eagles Communications out of Lincoln, Neb., handling stations in Iowa and Eastern Minnesota. He has suggestions for those who have problems running their UPS from a generator. Ron has encountered this situation several times and so far has found it to be caused by three issues.

First, and most common, is the generator output fre-



Fig. 1: Harry Bingaman used parts from his junk box to make this protective switch cover.

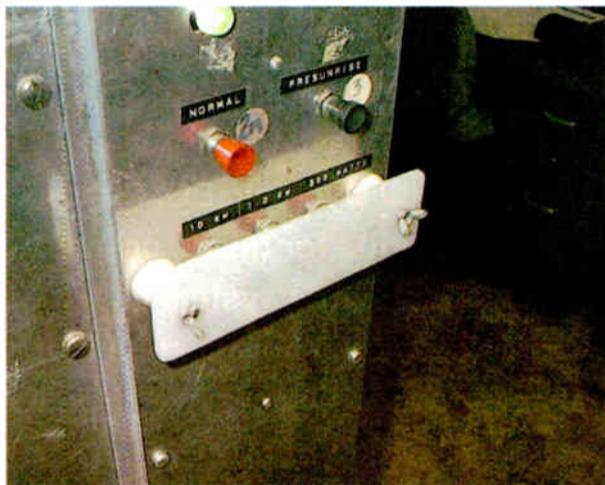


Fig. 2: The cover in place.

quency. Since just about all UPS systems use ferroresonant transformers, they won't accept 57 or 63 Hz. They need exactly 60 Hz to tell the rest of the UPS that the world is fine.

So how do you tell what your generator is generat-

ing? You can use a small filament transformer on the generator to drive a frequency counter or oscilloscope to get the generator governor to run at whatever speed is necessary to produce 60 Hz. The governor should hold the frequency to 60 Hz, regardless of the load.

You can usually locate the governor easily; it is linked to the carburetor throttle plate and has a big spring on it with an adjusting screw. Too many times people adjust these for voltage and not frequency.

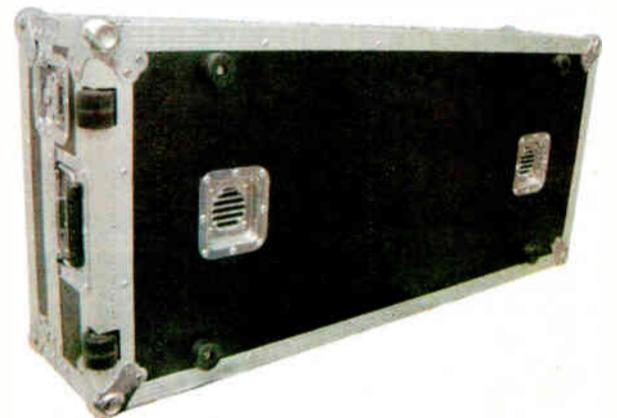


Fig. 3: Road Ready Cases offers cooling fans and transport rollers in its line of cases.

The second issue is generator voltage. It should be within the tolerance of the UPS, say 110 to 130 volts. This is adjusted in the newer generators by a pot in the electronic field regulator circuit. Older generators have what looks like a multi-pole relay with a large coil. Each contact has a slightly different spring tension; as contacts pull in and drop out depending on voltage, different resistances are inserted in the field winding to adjust output voltage. Although these are trickier to adjust, you can set them, with patience. Just make sure you are operating with normal load when you do the tinkering.

The third situation Ron has encountered is with cheap generator sets. On these temporary contractor-type generators, you may find spikes on the output waveform, caused by the output voltage regulators using SCRs.

See UPS, page 17 ▶

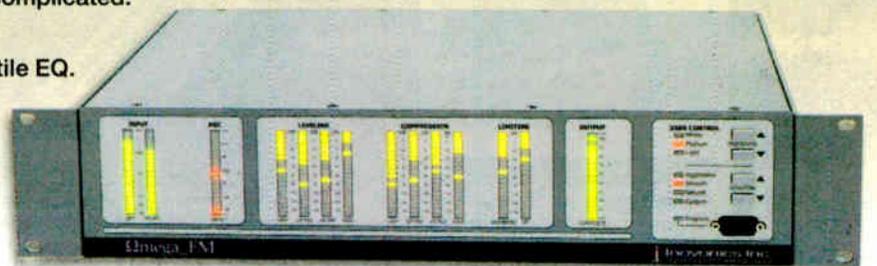
Digitally Diverse - Omega_FM

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MARKET PLACE

StratosAudio Encourages E-Commerce

StratosAudio Broadcast Management Software manages real-time PAD acquired from broadcast radio station automation systems, music scheduling, traffic and or data-capable CD players.

SABMS acquires playlist data via a serial or IP feed and processes the data to enable interactivity and storage for reference and reporting. It routes processed data to the RBDS/RDS sub-carrier via a serial or IP feed for broadcast and to the Stratos Business Systems Database (SABSD) for reference.

The software supports routing data to the database directly via IP or to a serial port connected to a non-automation computer on the network ring within a station environment. Once broadcast, the processed data enables interactive devices to recognize and manage the data. SABMS supports UECF command services; it also supports Radio Text, PTY and most other elements of the RBDS and RDS specifications.

The system is intended to populate the database to enable real-time monitoring and auditing of aired events, listener responses to and purchase of on-air content such as music, ringtones and talk shows, event tickets, responses to ads, premium offers, emergency alert services and traffic notices via Web sites, radios, mobile phones, portable music players and PDAs.

Features include IP connectivity to multiple points providing data transport to RDS encoders, station Web sites, signage etc. Variable "Day Part" functionality enabling scheduled message layers via RDS and alternating messaging in the Program Service and Radio Text groups is supported.

Enablement of interactive services is a key function of the software. Compliant interactive radios are designed to display

on-air data and to provide the ability for acquisition of digital content, ringtones, voting, promotions and other information at the press of a button. Other services are under development or consideration including emergency alerts on a local or national level with the ability to provide relevant information to specific communities via Web sites, radios, mobile phones and PDAs.

SABMS facilitates the foundation for generation of e-commerce and m-commerce through directing playlist data SABSD where it can be processed and redirected to station sites, third-party Web sites, wireless services and used to enable CRM reporting, interactive response fulfillment and affiliate club services.

Contact the company in California at (626) 289-0770 or visit www.stratosaudio.com.

WE GIVE YOU BISSET

Name: John Bisset
Occupation: Northeast regional sales manager for Broadcast Electronics
Experience: Four decades in the industry. SBE Certification; presenter of NAB Transmitter Workshop; speaker at numerous conventions; contributor to NAB Radio Handbook
Mentors: Lamar Newcomb, Ray Gill, Steve Dana, John Cunningham, Charlie Wright, John Mullaney Sr. and Jr., Mitch Montgomery, Morgan Burrow, Jim Weitzman, Alan Pendleton, Morris Blum, Milford Smith, Tom Giglio, Scott Beeler.
Favorite memories: Early days of AM improvement; demonstrating the Splatter Monitor to the FCC with fellow Delta employee Tom Wright; development of Workbench into RW's most popular feature.
Quote to live by: "Few things are more persistent and intimidating than our fears and our worries ... especially when we face them in our own strength." — Swindoll

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UPS

► Continued from page 16

Look at the output of the gen set. You may see big spikes on the sine wave. Ron has had luck sticking a couple of MFDs (microFarads) of AC motor starting capacitors across the output. Although it upsets the power factor in a positive way, and reduces the output capacity of the generator somewhat, it will smooth out the waveform enough to let the UPS run fine. Just make sure that the capacitors you use are the AC motor type; generally about 10 uF is enough. Ron has used motor caps for split phase motors rated at 330vac too.

These are not the only reasons a UPS won't run on a generator, but they're the ones Ron has encountered in the prairies of the upper Midwest.

Ron Schacht can be reached at rschacht@kls.threeeagles.com.

John Bisset has worked as a chief engineer and contract engineer for 37 years. He is the northeast regional sales manager for Broadcast Electronics. Reach him at (571) 217-9386, or jbisset@bdcast.com. Faxed submissions can be sent to (603) 472-4944. Submissions for this column are encouraged, and qualify for SBE recertification credit.

RADIO IT MANAGEMENT

Can Shoutcast Meet Your Streaming Needs?

by Chris Prewitt

Online content is quickly becoming more and more important to the radio world. Your listeners are looking for online content to supplement or replace what they hear over the air. There are many software and hardware products available to help get audio online, and it can be confusing keeping track of them.

Nullsoft's Shoutcast program (www.shoutcast.com) may be the answer to your station's streaming media needs. It is a powerful and dependable application with a wide assortment of streaming uses.

Setting up your station's streaming audio is not too hard or time-consuming once you figure out how to adjust Shoutcast and decide what you want to do.

Nullsoft's Web site claims all you need to get started is a mostly unused computer system, bandwidth and some knowledge of computers.

Shoutcast is based on a program most people are familiar with called Winamp. The good news is, just like Winamp, Shoutcast is free. There is no need to pay for anything. Many other streaming audio systems can be costly, and may possibly not have the flexibility you get from Shoutcast.

The other factor to consider in free software is support. Because you don't pay for anything, you are not provided with any guarantee on help. Shoutcast has a thorough forum for assistance with getting everything set up and configured to do what is best for your needs. The forums are located at <http://forums.winamp.com/forumdisplay.php?forumid=140>. While they host a wealth of answers, searching through them for specific information can be tough.

It may not cost anything to get the software, but you may have to spend more of your time getting it just right than you would with a program you purchased.

Stream setup

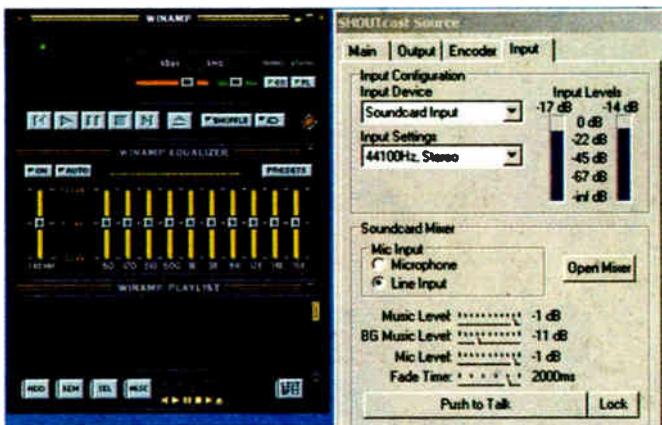
The first thing to consider when preparing to set up a Shoutcast server is your content. Most of us are in the radio business and want to put up a live stream that re-broadcasts what is playing on the air. This way our listeners who are out of range are still able to listen to the station while at a computer.

Another common stream setup is providing on-demand audio files. You may want to make pre-recorded content available on the site for your listeners to access at times they want; possibly archives of previous programs or specials that are not available over the air. Shoutcast allows you to set up both at the same time on the same system. The live stream can come in any way you want, from a cheap on-board



audio card to a specialized high-end digital card. You just tell Shoutcast what your input is and it will send it out.

Prerecorded programs are even easier to set up. In the configuration, you turn on the "ContentDir" option and then point it to where the files are stored. Files that are in that folder are now available to your listeners. By default you will get a live PLS stream and an on-demand M3U stream.



Shoutcast is based on the Winamp streaming audio program,

The file type you are providing is an important factor to consider because of copyright restrictions and ease of use for your audience. With Shoutcast you have the option of making your on-demand files available as MP3 or M3U. As a general rule, when your material is not copyrighted you should use an MP3 and when it is copyrighted use an M3U.

MP3 gives the listener a real copy of the program they can save to their computer, burn to a CD or put on their iPod. The M3U option only downloads a pointer to your station's computer where the files are stored. The listener does not have a copy of the program so they are limited in their abilities and prevented from making copies.

This only applies to your on-demand content; live broadcasts work differently. When providing a live broadcast, you don't need to worry about copyright restrictions as much and can concentrate on your lis-

teners and their preferences.

There are many media players out there, and each one has a group of users that want to utilize it. If you look at other radio stations and what they are providing for live streams, you will notice many similarities. The most common seem to be three live stream types: Windows Media Player, RealPlayer and MP3. Some stations have only one or two of these options; others also may provide QuickTime, XMMS or others.



Users can edit configurations to add streams.

When using a live stream, Shoutcast only puts out an MP3 stream called a PLS. This will work great for listeners that want to use Winamp, iTunes or any other media player that is set up to use MP3s.

But what about people that only have Windows Media Player on their computer, or feel most comfortable with Real Player's interface? Luckily for us, people ran into this problem before and came up with several solutions that are available on the forums.

My favorite fix is done through your station's Web site, which provides the links to the streams. It makes sense that if someone wants to listen to your stream, they are going to find your Web site and look for it. Shoutcast on its own makes you type in an address involving the IP and port numbers, which you could never expect your users to remember. You will want to make a link to your stream from your Web site. While making an MP3 link you can alter the code a little and set up Real, Windows or other players' links too. Shoutcast is only putting out the MP3 stream and normally it will show up on the site as a PLS. With some specific code on the site you can change the PLS to an ASX for Windows Media Player, RAM for RealMedia or others depending on what you want to do.

When you begin to set up Shoutcast you may notice you can control the bit rate at which your stream is provided. This also is an important factor to consider. A low bit rate will allow listeners with slower network connections to use your stream. A high bit rate will give you the quality some listeners expect. It is hard to find a point where everyone is happy but you can do pretty well using one stream in the middle of the spectrum.

Another option is to provide multiple bit rates of your stream. Shoutcast is set up with four encoders that can provide your stream at four different bit rates. It only takes a bit more configuring to add these additional streams and please more listeners.

As mentioned, Shoutcast is adaptable to many situations and is customizable in many ways. For example, you can add an intro file that plays before the stream that advertises your station, or a file that plays if your stream is unavailable. You also can kick listeners off after a certain time is reached, or ban certain listeners. I recommend setting it up in a test environment and tweaking it to work the way you want before providing the stream to your listeners.

It also is important to understand the final environment in which you will use the Shoutcast server. One thing to consider is that in order to reach a lot of listeners you will need a lot of bandwidth. Also be mindful of firewalls or restrictions your stream may encounter between your server and the listener. When selecting the system from which you will stream, look for one with the most available RAM.

I urge you to look at your station and how streaming audio can be added or improved. Then, when checking out the available companies and their solutions, look into Shoutcast and the other free guys out there.

Chris Prewitt wrote in RW in July about using Windows Remote Desktop or other third-party software programs to save a trip into the station. He is a support systems administrator for UMKC Information Services at the University of Missouri, licensee of KCUR(FM). E-mail him at chris@theprewitt.com.

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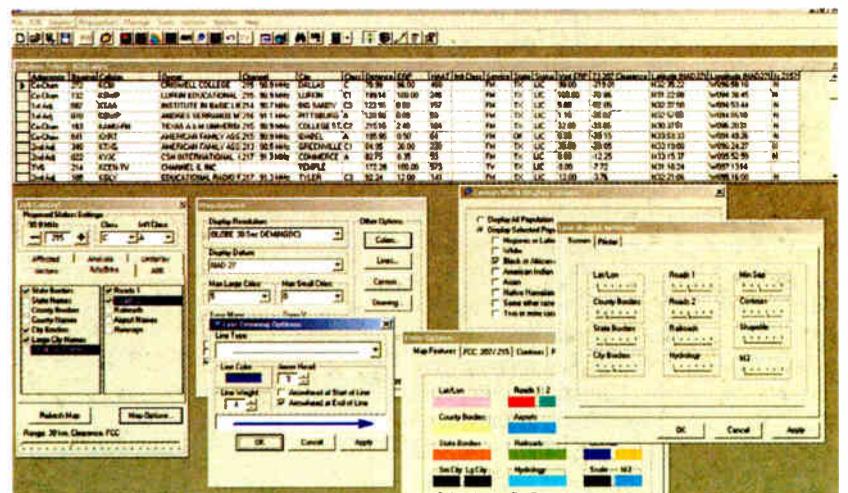
rfSoftware Offers Version 3 of rfInvestigator

rfInvestigator V3 is aimed at professional engineers and is updated based on user suggestions, according to rfSoftware, which produces the program.

Users now can work in either AM or FM from one program. The package includes free training, updates and technical support. New labels and arrows functionality make creating exhibits easier. The layer order can be set to make sure important information is seen. "Optimized for use with multiple monitors, put the tools on one screen and the map on another," the company says.

rfInvestigator V3 includes Block Level Census and demographic data to create reports for the sales department, USGS 3-second and FCC and GLOBE 30 second terrain, the Antenna Structure Registry database, updated weekly. Users can clean up the spread population display by limiting the level to begin showing population.

For information contact the company in Florida at (352) 367-1700 for an online demo or visit www.rfsoftware.com.



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FIRST PERSON

Re-Creating Baseball Games 'a Fine Art'

Simulations Helped Stations Avoid Expense of Phone Lines and Sending Sportscasters to Away Games

by Big Jim Williams

I received my first full-time announcing job in 1951 at KVVC(AM) in Ventura, Calif.

We were a 1,000-watt directional station (two towers) broadcasting from a bean field on the edge of town. The cramped studio transmitter building, a cracker box block structure with a flat roof and dusty parking, also housed our manager, offices and sales staff.

There I was, trusted behind a microphone, operating a transmitter as a "combo-man." I loved every minute reading commercials and news, playing 78 rpm records, and 16-inch electrical transcriptions (ET) where I got to say, like the big-voiced announcers on the networks: "The following program is transcribed."

Re-creating the big game

In the early '50s, Ventura had a professional baseball team, a farm club, in the California C League. We broadcast games live via telephone lines from Ventura's Seaside Park, and when Ventura played nearby Santa Barbara. League teams were spread throughout California.

When baseball games were played "on the road," we "re-created" them, using a Western Union observer tapping his telegrapher's key at away games. Another WU employee, in our station, translated the dots-and-dashes into an abbreviated script. Our broadcasts usually began about 30-minutes after the actual start of the game.

Re-creations avoided the expense of transporting our KVVC sportscaster to away games, and paying for broadcast phone lines from distant ballparks.

For re-creations, I ran the station's master control board, provided background "crowd noise" from 16-inch ETs, and — from our limited sound-effects library — clapping, cheering or booing when needed, while our play-by-play man (John McCormick or Jim Deering) re-cre-



Big Jim Williams today

ated the game behind glass in Studio A.

A baseball bat hung from the ceiling where the sportscaster struck it with a wooden ruler to duplicate hitting a ball. A baseball glove in his left hand and a ball in his right hand replicated catching a pitched ball. It all helped to make our re-creations sound like we were actually in a ballpark. I loved it.

A small speaker behind the sportscaster allowed me, through a separate microphone, to sound like the ballpark's PA announcer, thus adding additional authenticity to our broadcasts. "At bat is ..."

I occasionally added a recorded voice in the background, shouting: "Get your peanuts, here. Get your red hot peanuts."

I also read the commercials, of which there were few because listeners and advertising dollars were being siphoned off by the new medium of television.

Although we began and closed such broadcasts with disclaimers, we frequently received calls from listeners, arguing (often betting) with friends, "Is this game live?" Most calls came from bars.

A fine art

One night Ventura played at Modesto. We had a telegrapher, Harry Parsons, in our station accepting dot-and-dasher signals from his counterpart in the press box in Modesto. The away telegrapher opened with player lineups and positions, and

added something like, "... 85 degrees ... cloudy ... rain possible ... wind 5 mph from SW ... 587 in stands."

When play began, a simple outline of each half inning followed. "Ventura up. Sam Jones, left fielder, at bat. S-1 ... swings high. B-2 ... low. S-2 ... no swing. Hits deep to right field ... Rollins stops on first bounce ... throws to first ... close, but safe. Fans boo ref."

After typing up a half inning of play, Harry silently entered Studio A and gave the original to our sportscaster and a carbon copy to me.

The sportscaster could then ad-lib the game, adding background and color as needed to slow or speed up the action. After working together on several broadcasts, we had re-creations down to a fine art.

A baseball bat hung from the ceiling where the sportscaster struck it with a wooden ruler to duplicate hitting a ball. It helped to make our re-creations sound like we were actually in a ballpark. I loved it.

However, the night we played Modesto, everything went wrong, worse than Earnest Thayer's poem, "Casey at the Bat."

About three innings into the game, Harry rushed into master control, shaking his head. "I don't know what's going on up there, but something's weird," he said.

He handed me the script he'd just typed. "Look, at this, Jim."

I did. Modesto had had *four* outs, retired its side and then come right back up to bat again.

"This is crazy," said Harry.

Our confused sportscaster wasn't sure what to do. He began sweating, ad-libbing about the weather, the crowd, the players, the crowd, his kids, the crowd, his WWII experiences and making up stories about

the ballpark's peanut vendors or arguments or fights in the stands; anything to kill time. He was desperate. There he was with an open microphone, and a telegrapher's script that didn't make sense.

There was always the ploy he had used before: "The groundskeepers need to drag the field," or, "it's suddenly raining here," or "the stadium lighting has gone out," or "we're getting a dust storm, so back to the studio for some music."

I filled with music while Harry hurriedly phoned the press box in Modesto. The phone rang and rang before the telegrapher answered with hiccups and slurred speech. He was drunk.

Harry was suddenly faced with getting information (begging is a better word) from a reporter covering the game for the Modesto Bee newspaper. Working hurriedly, Harry typed a new cue sheet, picking up action prior to where Modesto supposedly had "four outs."

After about 20 minutes of music, we

returned to the re-creation and eventually finished the broadcast.

Don't ask me who won, because I don't remember. But the Modesto telegrapher got fired.

It was a terrible evening. Now, more than 50 years later, it comes back as one of the most memorable events of my long career in small-town radio.

However, it may have been the night I took up drinking. I know the sportscaster did.

Jim Williams now broadcasts for KZSB(AM) in Santa Barbara, Calif. He's the author of audio books "The Old West" and "Tall Tales of the Old West." His westerns and detective stories have appeared in numerous publications. Reach him at bigjimwilliams2@cox.net.

MARKET PLACE

Pulizzi Has Three-Phase Rack-Mount PDU

Pulizzi Engineering Inc. released its PC3365 Series rack-mount power distribution unit. The input power is three-phase 120/208 volt 30 amp, via a NEMA L21-30P plug. Power output is at 120 volts and distributed through 24 IEC C13 "computer style" receptacles, providing 8,640 VA of power.

The 19-inch rack-mount PC3365 Series is 2 RU tall. The front panel features indicator lights and circuit breakers. The power input is located on the rear through an attached 15-foot power cable along with the power output, with an integrated cable restraint and management system. The enclosure is steel and has a black power coat finish.

The series comes standard with electrical noise power filtering, providing protection from electromagnetic and radio frequency interference. The company says systems, including UPS connected equipment, benefit from this feature, as noise often is introduced into the system after the UPS, or is picked up on unshielded power cables.

The PDU is part of Pulizzi's "Power Density" series. The three-phase input allows for a rack of equipment to be powered from a single power cord input. The company says this approach reduces cabling costs and cable clutter when compared to mounting multiple power strips in an electronic cabinet enclosure.

The PC3365 is UL Listed and meets UL 60950-1 requirements for branch circuit protection and safety. The PC3365 Series ranges in price from \$1,288 to \$1,676 depending on options. OEM quantity discounts are available.

For more information, contact Pulizzi Engineering in California at (714) 540-4229 or visit www.pulizzi.com.



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"This mic is unbelievable. I have worked with some of the most expensive microphones in the broadcast industry and none, I mean NONE compare to the PR 40. I have received reports from stations all over the world about the amazing audio quality of this mic."

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WSLS-TV NEWSCHANNEL 10**



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Al-Mahaba Hopes to Reclaim Audience

Harris, Satellite Sisters Are Among Supporters of Baghdad Station That Seeks to Promote Peace

by James Careless

Unifying various factions in Iraq and promoting peace is no small measure, especially when extremists frequently kill Iraqis making such a stand. Yet this is what the staff at Baghdad's Al-Mahaba (Love) Voice of Women radio station tries to do every day.

Initially funded by UNIFEM, the United Nations Development Fund for Women, Al-Mahaba's commercial FM broadcasts deliver topical interviews, listener call-ins, music, poetry and education aimed at women — many of whom remain cloistered in their homes.

Radio Al-Mahaba's announcers "talk about democracy, they talk about freedom of expression and they provide a platform for Iraqi women to voice their opinions about all kinds of issues and matters related to them," said Bushra Jamil, Al-Mahaba's spokeswoman. Until Al-Mahaba signed on April 1, 2005, "There was no woman's station in Iraq."

In October 2005 a massive car bomb aimed at a neighboring hotel destroyed Radio Al-Mahaba's 5 kW transmitter. This was followed by the failure of a rented 3 kW transmitter, leaving Radio Al-Mahaba using a rented 1 kW model. The equipment loss drastically cut into its coverage and thus its advertising revenues. As a result, "We've been struggling along this last year to make ends meet," says Jamil. To keep Radio Al-Mahaba alive, "for a whole month our staff members donated their wages to the station."

The operation has been helped with the donation of a new Platinum Series Z5 5 kW FM transmitter from Harris Radio Broadcast Systems. When this new solid-state unit is on air — at press time, it was being installed by Radio Al-Mahaba staff after being shipped to Baghdad at Harris' expense — Radio Al-Mahaba will be back at full strength.

"It's difficult to describe the significance of this 5 kW transmitter to the continued success of our radio station," said Jamil. "It means we'll be able to reach the small towns and rural villages where



Radio Al-Mahaba staff stand in front of the Harris Platinum Series Z5, a 5 kW FM transmitter, still in its crate. The station received the donated replacement after a car bomb destroyed its old transmitter.

women remain extremely isolated from news and education. The illiteracy rate for Iraqi women is now at approximately 75 percent, so this makes our radio broadcasts even more vital."

Who listens?

Although Radio Al-Mahaba is programmed as a woman's station, its program content emphasizes human rights, equality and freedom for all. The station has attracted listeners of both sexes and all ages, based on listener caller information compiled by RA's assistant manager. (Officials asked Radio World not to publish publishing the names of staff or listen-

ers, for safety reasons.)

Take the 7-8 p.m. show, which covers "different issues like psychological issues, social subjects, family problems and relationships between people and their friends and lovers," wrote RA's assistant manager from Baghdad, plus "contributions from the listeners, which can be anything such as singing a song, reading poetry, any sci-

'Keep Al-Mahaba Talking' you become a member of that special community we call the satellite sisterhood."

Harris stepped up by providing the transmitter, one that Jamil hopes will allow Radio Al-Mahaba to become financially self-sustaining. Harris became involved in Iraq through its re-build of the Iraqi Media Network. Debra Huttenburg, vice president and general manager of the company's Radio Broadcast Systems business unit, said, "Communication is vital to the people of Iraq, and Radio Al-Mahaba operates daily under the harshest conditions imaginable."

In December, Jamil e-mailed to supporters, "The situation is deteriorating here rapidly, the criminal gangs supported by corrupted police and army individuals are controlling the streets. We asked all the females at the station to stay home." She said she spoke with one of the staff and "you could hear the sound of bombs, fire exchange and the sirens all day." She described a city of dirty hospitals, few doctors and relentless fighting by insurgents and militia. "For the first time since 2003 I feel extremely scared for my people and for Iraq's future. Yet it is our promise not to give up no matter what will happen."

Tough times ahead

Despite the support of the Satellite Sisters and Harris, the future remains daunting for Radio Al-Mahaba's staff and listeners. Jamil said earlier that security in the country had deteriorated to the



Staff in the studio.

entific information, and also telling jokes."

Among those calling in were a "an employee in ministry of education ... listening to us because we are the first radio station demanding woman rights"; "a graduate from the college of Islamic science, calling us because she considers us breaking all of what she has learned in life and college;" and a 40-ish male contractor "calling us because of the girls calling us and 'he loves girls,'" he said.

Radio Al-Mahaba's trials have not gone unnoticed by the international community. For instance, ABC Radio's "Satellite Sisters" have embraced the station's efforts and sought to raise \$100,000 from their listeners to keep it going. "As Iraqi women are increasingly confined to their homes out of fear, the radio is their only community," explained a post on www.satellitesisters.com. "When you contribute to the campaign to

point that "the violence has become part of daily life."

Add Iraq's shattered infrastructure and high unemployment — Jamil said "a lot of the students and young people who call have their Bachelors [degrees] and they don't have any jobs" — and there's no quick fix on the horizon. But goals of peace, stability and unity remain at Radio Al-Mahaba.

"We want for this violence to end," said Jamil. "We want to see a good, non-corrupt and decent government that treats all Iraqis as Iraqis, that doesn't ignite the sectarian violence and differences among people." Until this happens, Radio Al-Mahaba hopes to continue to spread its message of tolerance, equality and human rights. "When we talk to Iraqis, we tell them to stay united and keep their faith," Jamil told Radio World. "A better day will come; don't give up." 🌐

MARKET PLACE

SpectraRep Presents Demos With DHS-FEMA

SpectraRep and DHS-FEMA presented emergency preparedness and alerting demonstrations at a conference this fall.

Last summer SpectraRep was selected by the Association of Public Television Stations to provide systems integration and project management services for the Digital Emergency Alert System program. DEAS is a wireless data delivery system that organizers say will deliver improved alert and warning system for the American public. It is a project of APTS and the Department of Homeland Security's Federal Emergency Management Agency. FEMA's Office of National Security Coordination serves as the federal government's executive agent for the national-level Emergency Alert System.

SpectraRep also has released an updated version of AlertManager, its emergency notification and critical event messaging system. The company promotes the system for its interoperability with various outbound warning systems, including broadcast EAS. AlertManager is used for broadcast EAS activation and group notification, transmitting emergency messages with audio, video and multiple file attachments. The system provides a "Digital Rip & Read" service for newsrooms, and targets messages to cell phones, e-mail, and other systems.

Separately, SpectraRep's parent, BIA Financial Network, has acquired ActiveAccess, a private-label desktop application for delivering news, weather, alerts, promotions and other content to the computer desktop. The application allows government agencies to alert departments or the public of emergencies in real time.

For information visit www.spectrarep.com or www.activeaccess.com.



Clear Channel's Creative Services Group is using Neumann TLM 103 microphones in its Atlanta facilities. In addition to spoken voice applications, the mics will record singing, guitars and an array of musical instruments arranged by in-house composer Jason Phelps. ...

Klotz Digital said it sold its 1,000th Vadis D.C.II console. The buyer is NPR.

The mixing console is part of an order NPR placed to expand its New York City Bureau. "In total the facility's two Technical Centers and the Main Control Room will be equipped with two VADIS D.C.II consoles and a router system comprising six VADIS 888 frames with AD, AES/EBU and OCTO-BUS I/O," the supplier stated. "The system also includes control panels and amplifier modules from Klotz Digital's Varizone product range for five production studios that interface with each Technical Center as shared resources." ...

Logitek Electronic Systems has reported several sales including a multi-console Remora sale to Salem's KCRO Radio in Omaha, Neb.; a Mosaic console system to World Evangelistic Enterprise's WEEC Radio in Springfield, Ohio; and an order for both Mosaic and Artisan consoles to Youth Radio in Berkeley, Calif.

Marantz said its PMD660 Compact Digital Recorder is being used in a teaching role at Broward Community College in Ft. Lauderdale, Fla. Robert Buford, an associate professor of speech at the Communications Department, uses it to teach podcasting to Speech Department faculty and plans to do the same for students. Faculty bring it to poetry readings, "take their recordings and transfer them to laptop, edit them in GarageBand or some other simple audio editing program, and they're podcasting," the supplier stated. ...

Shanghai Media & Entertainment Group, a media conglomerate in China, is using Harris Intraplex multiplexers to distribute 16 radio programs from the Honggiao Radio Broadcast Building in Shanghai to transmitter sites at four locations. The multiplexers were installed last spring.

Separately, Harris closed a turnkey radio transmission sale to Radio Ethiopia, part of the Ethiopian Radio and Television Agency. The contract is for high-power AM transmitters for stations in Harar (3DXT-D100, 100 kW) and Mekele (DXR-D200, 200 kW) through Technology Systems and Solutions, a local dealer.

The transmitters are ready for DRM and HD Radio conversion. Harris said the transmission system will improve the quality of AM radio in the country. ...

Virgin Radio Thailand built digital studios in Bangkok. Telesto Broadcast from Singapore installed the electronics and EAD in Bangkok did the acoustics and studio construction. Virgin Group

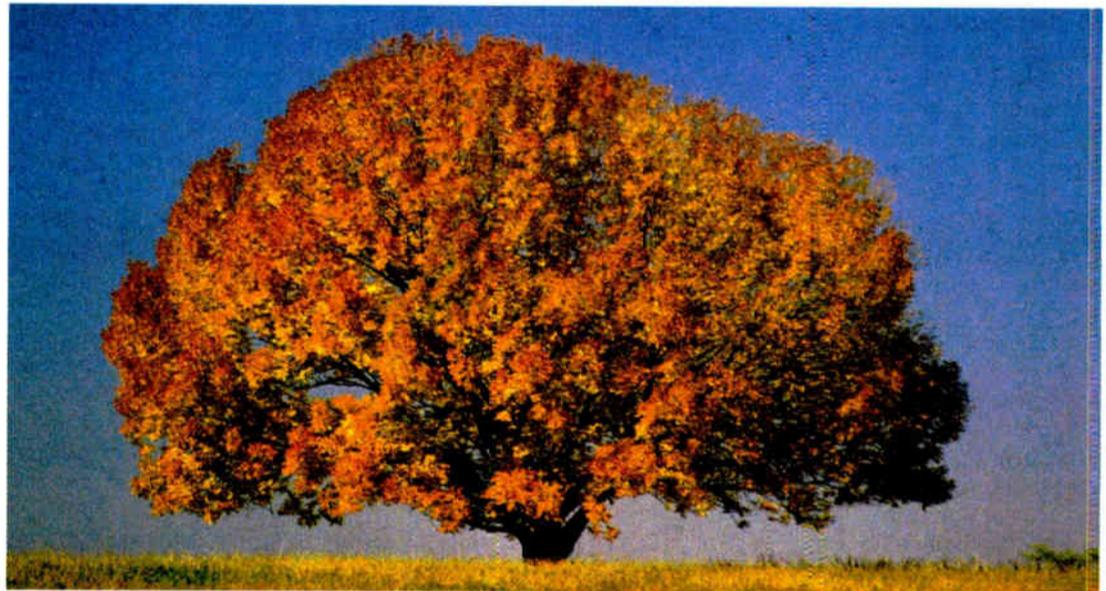
Chief Engineer/Product Manager Lindsay Muggridge said the facility includes seven air studios, seven co-producer booths, five news studios, three Pro Tools production rooms, recording and voice booths and a master control. The facility is equipped with a Klotz Digital Vadis II digital system and RCS automation. ...

Jampro Antennas received an order for a JDIY 2-bay broad band FM antenna from WNUK(FM) at Northern Kentucky University.

Separately, Clear Channel station KIIS(FM) in Los Angeles, adding HD Radio, used Jampro to space-combine their existing JSPC-1 Penetrator antenna. Jampro said it resurrected designs of a discontinued model and custom built a new JSPC-2 to make the separate height antenna installation possible. ...



Clear Channel's Creative Services Group uses a dozen Neumann TLM 103s.



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NRSC Surround Recommendations Expected

A Two-Year Study of Options for 5.1 Radio Broadcasting Is Nearing Completion

At CES 2007, the NRSC is expected to consider the report from its Surround Sound Audio Task Group, or SSATG, perhaps approving it for final publication. I am the co-chair of SSATG. Here's a bit of a preview of what to expect — or more importantly, what *not* to.

While the report contains plenty of information — it's kind of an owner's manual for station engineers considering conversion to 5.1 broadcasting — it does not recommend the selection of a single standard for surround radio in the United States. To some this may seem disappointing, and a rejection of long-established practice in broadcasting — or reminiscent of AM stereo — but it's important to understand the significant differences between this transition and those of the past.

Multi-format surround is here

First, unlike some earlier broadcast format upgrades (like FM stereo), radio is well behind the curve with surround. When FM added stereo, for example, the two-channel approach was still emerging in other consumer audio formats. Moreover, FM had to consider backward compatibility to the installed base of monaural FM radios, while new consumer audio systems were largely discrete, two-channel devices from the start. (Vinyl disc was an exception, requiring a period of separate stereo and mono discs for backward compatibility, so the FM sum-and-difference multiplex solution seemed uniquely elegant by comparison.)

In contrast, surround sound has been around in one form or another for over two decades prior to its current, serious consideration for radio. As such a late-comer, radio has to acknowledge the already well-established position of surround sound in the consumer audio environment.

Equally important is the fact that this marketplace already includes *several* competing surround sound encoding formats that all seem to be faring pretty well. Thus the existence of multiple formats does not seem to have thwarted the success of any one of them.

Diversity

Part of this departure from conventional wisdom is simply due to today's digital consumer electronics, which with little difficulty and low cost can "automagically" adapt to multiple formats, given adequately unambiguous signaling or detection methods. For example, multi-codec digital music players have become the norm, even in cheap, pocket-sized form factors.

This implies that the old rule of "single-standard-or-else" for broadcasting may no longer apply in all cases.

While this new flexibility may bring some added complexity, it also carries other values that can make it worthwhile on balance. Consider that competition almost always begets improvements, and the consumer ultimately benefits. In this case, now that radio has begun to explore surround sound, it is a boon to the industry that at least four major players in the surround business (Dolby, MPEG, Neural and SRS) have shown their strong support in providing solutions appropriate for both analog and digital radio systems. Any good steward of broadcasting would do well to encourage rather than discourage these proponents' interest in increasing the value of U.S. radio service.

And although these companies all produce different surround formats, one element of their engagement with radio is common — and essential: By various means, they all provide backward compatibility to stereo and mono receivers.

Perhaps most important is another

result of the NRSC's exploration regarding this diversity. Unlike the AM stereo issue, the different formats proposed for surround broadcast do offer at least a nominal degree of interoperability. So even if a surround-capable receiver does not provide the specifically corresponding decoder for the surround-format encoding that a broadcaster chooses to use, the results will still be acceptable. While the exact image of the original discrete surround mix may not be reproduced with complete accuracy in all such cases, neither will the resulting signal mute or be unacceptably impaired. Typically, a reasonable surround output will result, and stereo or mono listeners will be unaffected in any case. Therefore a future of coexistence among several surround formats in radio broadcasting seems assured, just as it has become in the worlds of television and other consumer video formats.

Competitive advantage

Given the reasonable degree of compatibility of these formats with one another, and to stereo/mono, the NRSC report concludes that choice of format should be ultimately up to the individual broadcaster. This provides each broadcaster with a new method of product differentiation, and allows surround sound to be yet another tool in the creation of a station's sonic signature — on either its analog or digital signals, or both.

Thus station engineers can consider the addition of a surround encoding system like an element of station audio processing rather than part of a broadcasting format. As such, it is an optional element of the audio signal that can be freely explored and appropriately used by broadcasters, and is not subject to standardization or rulemaking.

Should one particular surround encoding format ultimately predominate in U.S. radio, or should a station later change its preference of format, it is a simple matter to change to another sur-

The Big Picture

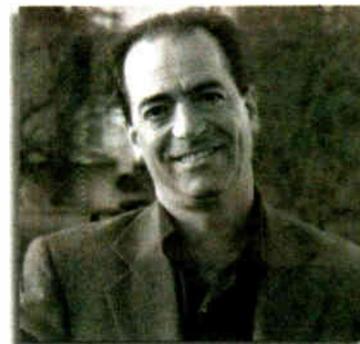


Photo: Gerry Hayes, BBC

by Skip Pizzi

round encoding format (akin to exchanging one brand of audio processor for another). In fact, a station's chosen path to surround broadcasting could well be a multi-stage process, as the NRSC document describes.

If you are interested in a thorough and unbiased evaluation of options for surround broadcasting, well vetted by the surround industry's experts, along with some caveats and recommendations for the conversion process at stations, seek out the NRSC report when it becomes available.

Skip Pizzi is contributing editor of Radio World.

RW welcomes other points of view.

SBE Leader-Skills Seminars to Focus on People Skills

The Society of Broadcast Engineers says its Leader-Skills Seminars are designed for broadcast engineers who have or aspire to have management responsibilities. It is offering the two-part series in Indianapolis in 2007 in cooperation with instructor Richard D. Cupka, Sr., who has directed and taught the seminars for 40 years.

Course I, "Leadership — The Framework of People Skills," will be held June 5-7, and covers the function and nature of the leadership role. Discussion points include how to build stronger teams and effective internal cooperation; the differences in people; and discovery of one's "natural" style of leading and how to nurture a "developed" style to help in adjusting to people and situations.

Course II, "Leadership — Expanding Your People Skills," will be held Aug. 7-9, and picks up where Course I leaves off. Those wishing to attend Course II must have attended Course I. Course II explores individual behavior in groups and dynamics of interaction between groups; the motivations of different people and how to deal with them; how best to handle disciplinary processes; and where emphasis should be in a leader's ultimate responsibility over people and activities.

SBE advises attendees to register early, as each course is limited to a minimum of 10 and a maximum of 18 participants. Deadlines to register are May 2 for Course I and July 5 for Course II. The cost of registration is \$545 for each course, which includes three days of instruction, course materials and a certificate of completion.

For more information, contact Society of Broadcast Engineers at (317) 846-9000 or visit www.sbe.org.

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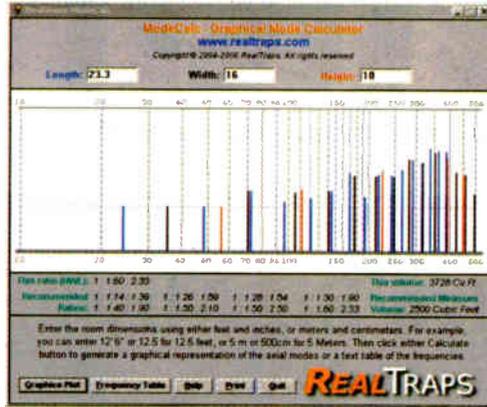
Real Traps Updates ModeCalc, Web Site

Real Traps upgraded ModeCalc, its graphical room prediction software. The free download (Windows only, 1.3 MB) helps users design a listening room, or assess the low frequency response in an existing room. The new version offers features such as a display that better identifies modes that are too close together, and a revised and expanded tutorial in the included Help system.

Also new on the Real Traps Web site is a Windows version of its Frequency-Distance Calculator. The tool identifies boundary-related peaks and nulls, and distinguishes them from modal peaks and nulls. Both programs can be downloaded from the Real Traps Web site's Acoustics Info page, which also has links to acoustics-related articles and educational videos, including a video that describes in detail how to set up and acoustically treat both two-channel and surround listening rooms.

"Acoustics and room treatment have for years been misunderstood and even ignored by people who are otherwise educated about audio," said Real Traps co-owner Ethan Winer. "It is our goal to explain this important subject in plain English, and dispel some of the most common myths."

For more information, contact Real Traps in Connecticut at (860) 210-1870 or visit www.realtraps.com.



Users enter room dimensions and ModeCalc gives the recommended minimum value.

Burk Runs GSC3000 Promotion



Burk Technology is offering a free GSC3000 I/O 16 unit for every three units purchased.

The promotion runs until the end of January. The GSC3000 is a broadcast facility remote control system. The included Lynx 5 software offers real-time data updates, a customizable user interface, and central platform for managing a practically limitless number of sites.

For information contact the company in Massachusetts at (800) 736-9165 or www.burk.com.

TuneTracker Aims Command Center at Mainstream DJs

TuneTracker Systems says it is targeting mainstream broadcasters with a high-end version of its TuneTracker radio automation product, which offers a new interface and feature set. TuneTracker Command Center is suitable for hands-on DJ use, and features a control console, soundboard and real-time weather information. Also included are "ShuttlePad" drag-and-drop program log editing, a "Lightning" request finder, live announce script display and talk-over ramp information.

"Everything about this interface was designed with announcers in mind," says TuneTracker Designer Dane Scott. "We limited the interface to a single window to avoid the confusion multiple windows can cause, and chose muted colors to reduce eye strain during long DJ shifts. There's built-in context help for every feature, and you can also pull up our entire manual from a button right on the front of the interface."

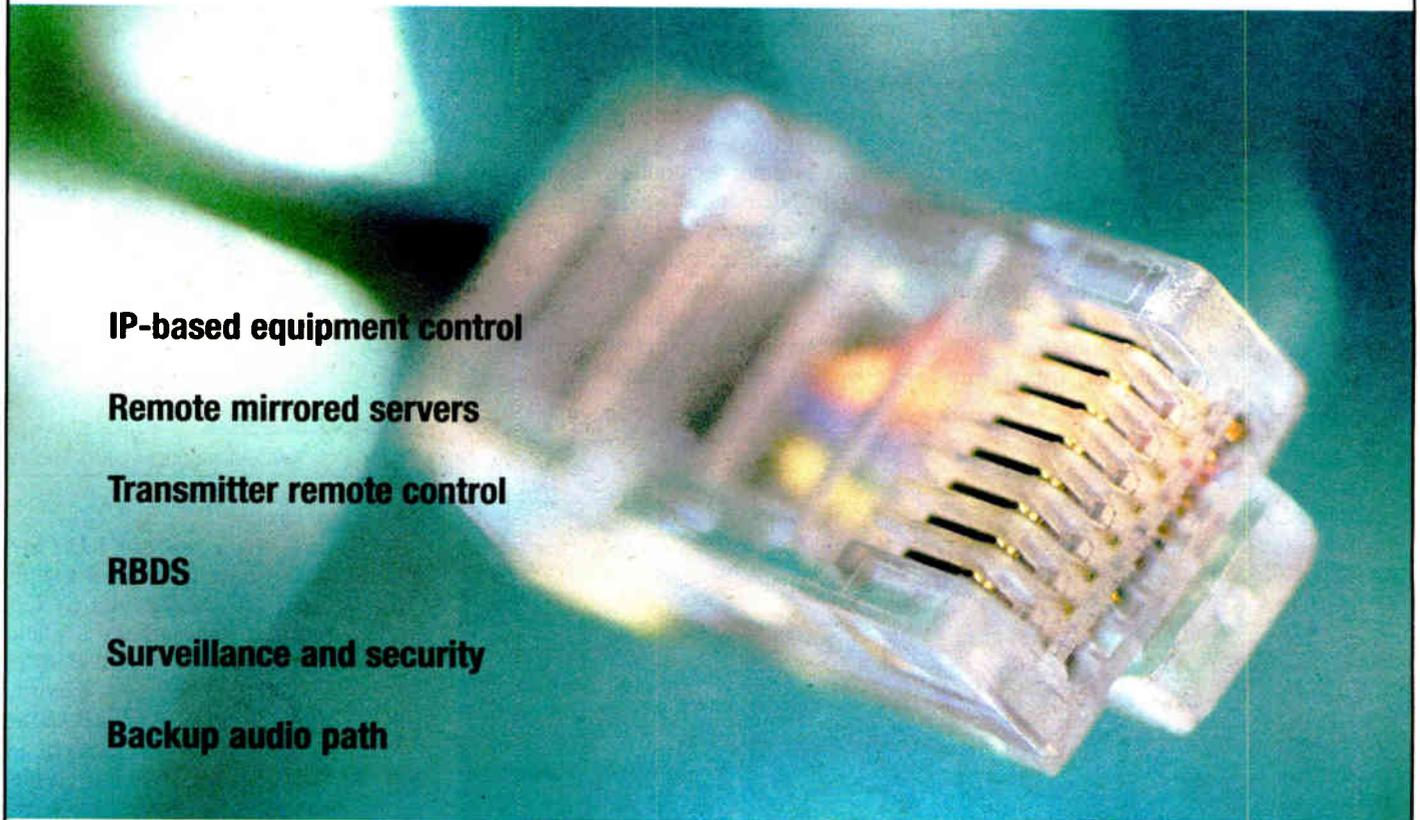
Scott said a set of configurable "MyShow" buttons also were created for each announcer. "Every button can be used to fire an audio cut or to display a script or show prep notes."

The program's scrolling text box doubles as a method of retrieving and displaying "tips and tricks," available weekly from TuneTracker Systems via the Internet, as well as a monthly newsletter.

Additional highlights include the ability to play announcements directly from the Internet, version 3 of TuneStacker music selection and program log generation, and a set of professionally voiced time and temperature announcements.

For more information, visit www.tunetrackersystems.com.

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SMALL-MARKET RADIO

Small-Market Station With a Big Mission

KJIL Serves Contemporary Christian Music To Listeners in Southwest Kansas

by Ken R.

Don Hughes, the CEO and general manager of KJIL(FM)/KHYM(FM), is a little like the owner of a mom and pop drugstore watching a Wal*Mart under construction across the street.

He and his staff of 10 full-time employees preside over the two locally owned, locally programmed religious stations in southwest Kansas. KJIL won the NAB's 2006 Marconi Award for religious station of the year. The contemporary Christian music outlet also was selected station of the year by the Kansas Association of Broadcasters. Listeners and underwriters strongly support its non-commercial programming.

"But we have the K-Love Network coming into our area within the next year or so," said Hughes, referring to the group that beams its religious format to more than 250 stations and translators

nationally from its home base in Rocklin, Calif. "It won't have anyone local on the air. Here we provide community service and a Christian outreach so we'll have an advantage. But if it takes away even 10 percent of our market, it will have an impact.

"On one hand it's providing good Christian programming where there might not be any, but it is causing us some concern."

Pitching in

In spite of this looming Goliath, KJIL keeps chugging along.

"This summer we conducted a mission project in Nicaragua," said Hughes. "We raised some money and went down there to help a small religious station that had been damaged and was broadcasting with only 87 watts. We took a tower climber down there, built a room onto their studio and repaired their equipment.

"Here in the states after Hurricane Katrina, KSJY(FM) in Saint Martinville, La., and WAQY(FM) in Gulfport, Miss., had lost just about everything. We brought them supplies, gave each of the stations' families \$500 and tried to help re-establish its ministries. We also work locally by helping seven crisis pregnancy centers out with baby clothes, maternity

be a positive force in society," Luskey said. "We went on the air 15 years ago with just one station and we have since blossomed to two stations and more than 30 translators through God's hand."

Based on Radio Research Consortium data that the stations purchase from Arbitron, about 30,000 to 35,000 people out of a potential audience of 300,000 tune in each week.

"I think that those stations that stand on the truth of God's word and don't compromise their spiritual calling, those



KJIL Morning Team Delvin Kinser, left, and Michael Luskey.



Luskey receives shoeboxes from area school children for 'Operation Christmas Child.' The station collected more than 7,000 shoeboxes filled with items for needy children during Christmas a year ago.

clothes and strollers."

KJIL and sister station KHYM — which plays a more traditional blend of Christian music — are owned by Great Plains Christian Radio. They are about 60 percent listener-supported and 40 percent underwritten by sponsors, according to KJIL Station Manager Michael Luskey.

"Our budget for the year is about \$1.2 million," said Hughes. "We have a lot of unconventional advertisers like doctors and lawyers who are mainly supporting us because they like what we're doing. Most of our business partners donate from \$100 to \$200 per month and we give them underwriting announcements. Our goal is to get a little bit of money from a lot of people."

Long-time station underwriter Monty Teeter and his wife Becky co-own Teeter Irrigation.

"We feel that KJIL has a tremendous ministry in the Great Plains area. It provides a good message through its music and words of hope and joy, rather than just airing all the bad news," Monty Teeter told RW. "We had a downturn in our business and cut out almost all advertising except KJIL and now we've been more blessed than we ever have been. By being on the station we tell people we have good business ethics. We're not afraid to say that we're Christian and we have Christian values."

The Teeters liked the station so much that after several years of support, Becky Teeter became a board member of KJIL.

But money is not the primary motivating factor driving these stations.

"We have a heart ministry and try to

who offer the listeners a great sounding radio station, will always have a loyal audience," said Luskey. "All the TV and radio stations here compete for our listeners' attention. That's why we've got to be on top of our game."

About the people

How does this small station keep employees from jumping to larger markets?

"Part of it is the quality of life in a rural setting," Luskey said. "And we feel our people are called by God to be a part of the ministry."

Hughes said that running the two stations is like bringing back 1960s radio.

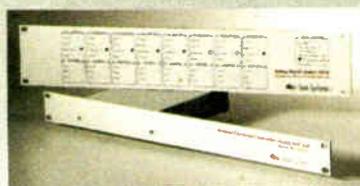
"We're live and local, which is very rare in small markets," he said. "Most stations around here rebroadcast satellite programming with maybe a live morning show. In Kansas the weather is pretty important. When we have tornado warnings we'll put someone on the air with in-studio weather radar. When you drive down the highway and you see those road signs that tell you to 'tune here for emergency information,' they tell you to tune to our frequency."

"We get a lot of people that normally wouldn't listen to us tuning in for weather," said Hughes. "And just maybe when they dial in to catch the tornado update they'll hear a little of our religious music and our message."

On the Web, you can hear these stations at www.kjil.com and www.khym.org.

Ken R. is a frequent contributor to *Radio World* and once again a college student at age 55. ☺

Product Showcase



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If I Wanted to 'Surf,' I'd Buy a Board

How an Abundance of Choices Has Made Radio Listening More Difficult

by Gary Begin

The object of all marketing is to be persuasive; to move your listeners to think, feel or do something. Building a brand involves elements of persuasion and integrity. We're asked to deal with unprecedented change in our media world — satellite radio, HD Radio, iPods, Internet radio, etc. We cut paths through too much uncharted territory, as Captain Kirk would say, at warp speed.

So we do too much with much less time, granted. Multitasking has become a way of life for most of us. The real problem plaguing radio is the amount of choices the listener has.

It's become a confusing proposition to listen to the radio. We have always felt as a society that choice is good and choice is related to freedom, which is essential to our well-being: The more choices we have, the more freedom we have and the better off we are.

It doesn't occur to anyone to question or challenge that statement, which is pretty much a no-brainer. Two is better than one, and three is better than two. Problem is, now we're talking about 25 or 30 radio stations in a market, not to mention all other media options. What was once a liberating experience is now paralyzing our ability to make a simple decision.

We've become a nation of "surfers" instead of "consumers."

Something to share

In the age of radio consolidation, this has become an even more pressing problem. We're not persuading listeners to stay with us long enough to enjoy their experience. A listener may hear what

**We're not
persuading listeners
to stay with us long
enough to enjoy
their experience.**

they perceive to be a great song, only to start surfing the dial with the thought that there's an even better song they're missing. In reality, this becomes a self-fulfilling prophecy. Good is never good enough. We're chasing our tail to spite our face, you might say.

Listeners pay for our service with their time spent listening. Yet, the inability to decide and stay with one particular station is there even when money isn't at stake. As choices increase, listeners actually have a more difficult time finding what they really like. When you're surfing you're not consuming, therefore, you're never fully satisfied with your experience.

I've developed a method of increasing TSL and listener loyalty that cuts through the clutter and gives your audience ownership with their favorite radio station. Here are a few examples:

- Stay topical and local. Find out what

interests your listeners. What are their hobbies? What are their "hot" buttons? Where do they enjoy hanging out? If you don't know, find out. You'd be surprised how your TSL will increase once you've addressed what interests them.

- Is your programming relevant to your audience? Not only do you need to be topical and local, make sure what you do on-air is relevant to what the audience is searching for. A good way to accomplish this is to have a staff member

See CHOICES, page 28 ▶



Begin says stations are not persuading listeners to stay with them long enough to enjoy their experience: "When you're surfing you're not consuming, therefore, you're never fully satisfied."

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Score With Listeners This Spring

Have you been to a minor league baseball game in recent years? If not, treat yourself and your kids to a night of relaxed family fun come spring time.

While you're there, pay attention to the way the kids react to the players and the game. For most of them, it doesn't matter that this is the minor leagues. They root for their team; they try to catch every foul ball; and they want autographs from the players.

There are several lessons here for radio that I'd like to tie in to sports marketing.

Sports at all levels — amateur, minor, or major league — is about passion. When passion plays in the mind, it creates memories. When a radio station can attach itself to those memories, it is much more likely to be recalled in a positive way. And this is not the only reason radio should be more involved with sporting activities. Two other reasons include helping out your local community and generating profits for your company.

Relationship

Where to start? Let's use our minor league club as an example: If nobody else has formed a relationship with the minor league baseball club in your market, go for it! You'll likely find them very interested in pursuing a promotional relationship.

Tell them you'd like to "own" six to 10 games during the season with your station branded on their literature, signage and advertising. Your morning team



should toss out the first pitch (or have a listener do it). Your jocks can take turns on the PA system with the house announcer and you should give away random prizes by hiding envelopes under seats or calling out seat numbers.

There may be some dough here for your sales department, but remember, you want to do this for your exposure. If you make this a play for money from the beginning, you're treading in rising water — often, minor league teams have limited budgets that may already be committed. This is one instance where you're

better off developing the relationship promotionally and then making the money the next season after you've proven to be more than a fair weather friend.

Instead of asking the team to commit to a spot schedule in the first season, ask for the right to sample a few non-competitive products on-site, or ask them to allow you to bring in one or two clients without charge to either you or the client. Ask the team to give you a substantial quantity of tickets for your game nights — perhaps as many as 300. Take the tickets and use a large portion of them for "ticket raids" at client locations.

If you don't want to do this in promotional airtime, have your sales manager do it in commercial units. After all, she is going to sell these raids to drive traffic to client retail locations. The spots essentially tell listeners to go to a client location to get free tickets to your game night during a very specific one-hour period. Be sure and give them in family packs — either four or six at a time.

Promo Power



by Mark Lapidus

Almost regardless of market size, if you do a little research you are bound to find a team that has no radio promotional partner. It may even be a local high school team that draws fairly substantial crowds but has never been offered a media opportunity.

The larger professional teams are much trickier to work with and if you lack experience, have a limited budget — or both — it's not likely that you'll score without resources. The rewards can be large when developing relationships with major teams, but don't attempt this without a seasoned professional on your own team. The big leagues are well-staffed, many with media veterans.

The good news is that you can still put major points on the board with your listeners with smaller games that have 500 to 5,000 in attendance. There's something to be said for the intimacy you gain at that level.

If you're a music-based station your listeners expect you to be hosting concerts. When you do so, no doubt you meet their expectations. But it's even better to exceed them, so come on. Puh-lay ball!

The author is president of Lapidus Media and a long-time RW contributor. Contact him at mlapidus@cox.net.

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Choices

► Continued from page 27

ber go through your local newspaper and cut out two weeks worth of letters to the editor. This is an inexpensive way to research your listeners "hot buttons."

- Is your imaging local? Focus the imaging of your station on local items of interest to your audience. This gives you some intimacy with the listener, shows you're in tune with the issues of your community and is a great opportunity to become relatable while pushing their "hot buttons." Have local community leaders and P1 listeners record your imaging. People love to hear themselves on the radio. This will make you stand out in a crowded marketplace while branding you as your community's radio station.

- Involve your audience. Become a two-way communications center for your listeners; not just for contests and games. People become more attached and loyal to a station in which they have a personal involvement. By branding your station as "My Country 105," or "My Oldies 106 WOLL," you've

embraced the listener on a much more emotional level. People will take ownership of your station when they have a reason to do so. Increased cume and TSL will follow. People purchase items based on an emotional response. It stands to reason they'll listen to your radio station for the same reason.

No amount of marketing or advertising can save a bad radio station. You need to get your "act" together before branding your product. People are more cynical today, and the Internet makes it too easy to listen elsewhere. Radio has forgotten that it's a part of show business. You must offer the "act" that's unique in the marketplace in order to survive. Anything that makes your listener grateful for your engaging, entertaining, stimulating radio station means they are more likely to pass it on. Everyone likes to be the one who shares something interesting with a circle of friends. It's up to you to give them something to share.

Gary Begin, with partner Steve Bianchi, is a radio consultant, researcher and strategist with Identity Programming. Contact him through his Web site, www.identityprogramming.com, or at gbegin@identityprogramming.com.

STATION SERVICES

Alliance Launches HisKids.net, Offers Wi-Fi Radios

HisKids.net is an alliance of Christian radio programs for children. It has launched an interactive web site called www.HisKids.net, providing programs and music on-demand at a central site.

Director Dodd Morris said the offering is the result of a cooperative effort among children's Christian broadcasters. HisKids is a broadcast ministry of Cornerstone University.



Initial programs are "Down Gilead Lane," "Karen & Kids," "Kids Corner," "Paw & Tales," "The Pond" and "We Kids." Music artists featured include Rob Baigi, Jeremy Blaido, Seeds, Jana Alayra and Go Fish.

Organizers cited a report by George Barna that children's mass media intake is 25 hours a week for two-to-seven-year-olds, and nearly 48 hours a week for eight-to-13-year-olds.

Bob Heerspink, director of "The Back to God Hour," the parent ministry of "Kids Corner," stated in the announcement, "HisKids.net offers quality, dynamic, Christ-centered programming to reclaim the time these children all-too-often spend consuming secular media."

In addition to listening on their computers, children and families can hear programs on demand on a wireless Internet radio that has been modified by the alliance, said Morris. "Anyone with high-speed wireless Internet (Wi-Fi) will have access to safe and appropriate children's music and programs in their home," he said. "The Internet radio also can be set to receive programming from local stations and churches. This special radio will be offered through HisKids.net at a reasonable cost." The price was \$179 in December, according to the HisKids Web site.

For information visit www.curadio.org or e-mail InChrist Communications at judy@inchristcommunications.com.

Journal Syndicates Todd and Tyler

"The Todd and Tyler Show" is being offered in syndication. The program, based in Omaha, Neb., also has been added to its Journal Broadcast stations KZRQ(FM) in Springfield, Mo., and KICT(FM), Wichita, Kan.

Tom Land is director of radio programming for Journal, which has 36 radio stations in 12 states. Journal says "Todd and Tyler" is the longest-running Omaha morning show; it is heard on KEZO(FM).

"The show deals with a wide range of topics, from news and current events to

politics, sports, entertainment, men's health and relationships," the company says. "Listeners have learned to tune in for Todd and Tyler's unique and amusing 'take' on what's going on." Guests have included Larry the Cable Guy, Lewis Black, the cast of 'The Shield,' animal lover Jack Hanna and various comedians, politicians and other personalities."

For information contact *Journal Broadcast Group in Wisconsin at (414) 967-5293.*

'Blair Garner': 30 Affiliates Since Oct. Debut

Premiere Radio Networks said Blair

Garner's new syndicated radio program, "The Blair Garner Show," had more than 30 affiliates. It launched in October.

Stations carrying Garner include WWWW(FM) in Detroit; WFUS(FM) in Tampa, Fla.; WNWN(FM) in Grand Rapids, Mich.; and WBUL(FM) in Lexington, Ky.

The program airs 7 p.m. to midnight seven nights a week. Country stars like Keith Urban, Reba McEntire, Carrie Underwood, Sugarland, Sara Evans, Craig Morgan and Kellie Pickler have been guests. Garner continues hosting "After MidNite with Blair Garner," which is also nationally syndicated by Premiere and is heard overnight.

Garner said the show "blew past our projections in the first couple of weeks."

For information visit www.premiereradio.com.

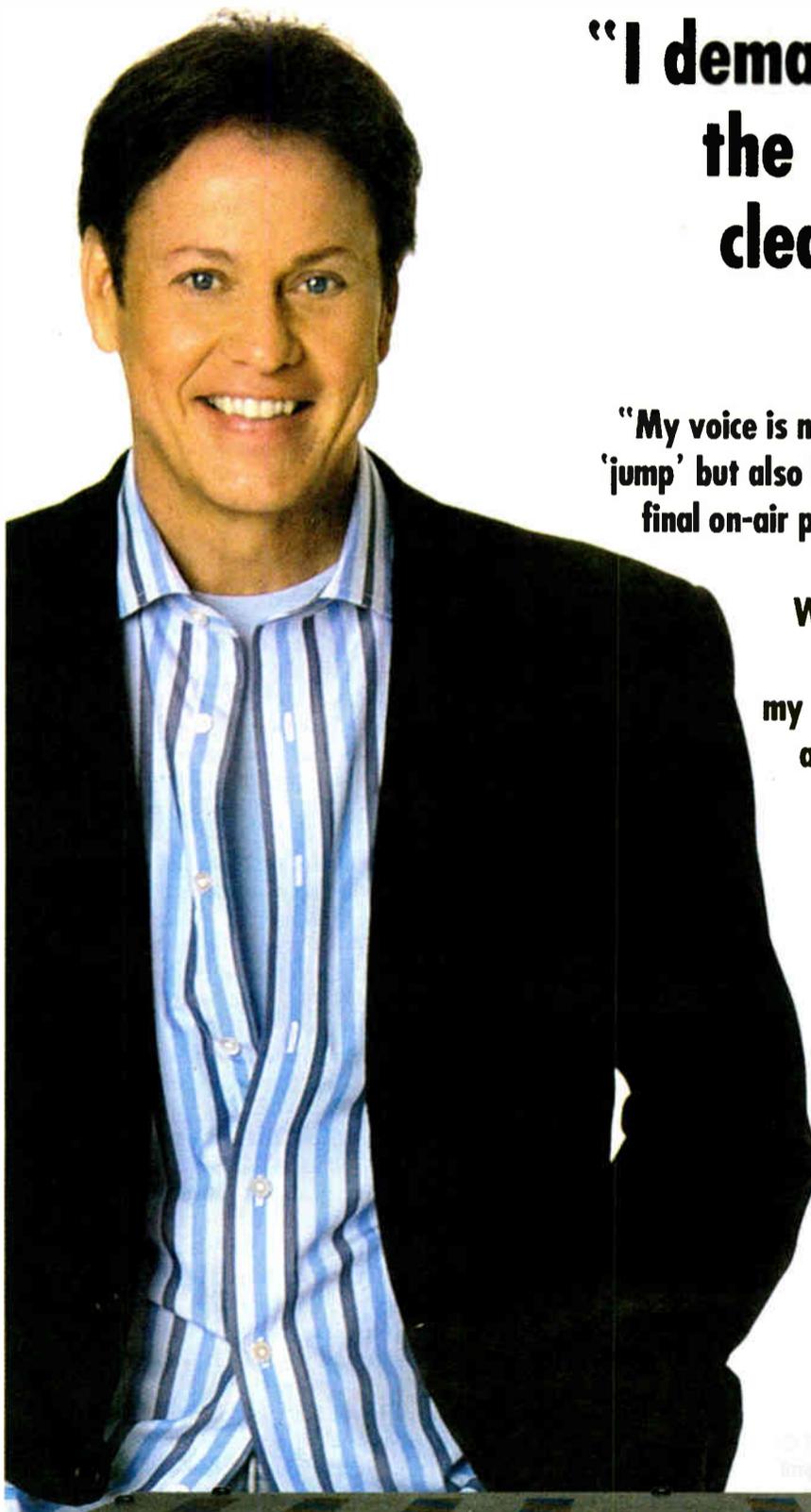
Envision Has Christopher Lowell

Envision Radio Networks launched "The Christopher Lowell Radio Show," available on a barter basis.

Lowell is an Emmy award winner and author who has had a show on Discovery for a decade. The syndicator says the host was recently dubbed The Doctor of Design by U. S. News and World Report.

"Mr. Lowell is best known for his mantra 'You Can Do It' and for his problem-solving expertise," Envision stated. He has a two-hour weekly radio program.

For information contact *Rebecca Pixley at rebeccap@envisionradio.com or call 216-831-376.*



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RADIO MONEY

Tax-Free, Like-Kind Exchanges

Swap, Trade or Exchange With a Later Tax Bill

by Mark E. Battersby

With property values continuing their upward trend, some owners who purchased their businesses years ago are discovering that the building housing the radio station or broadcasting operation is the most valuable part of their business. But how to benefit from that asset, or the other assets so necessary to the success of the business, is the question.

Tax-free, like-kind exchanges often provide an extremely useful strategy, substantially reducing the annual tax bite. Those Section 1031 like-kind exchanges or swaps are not, however, limited to real estate.

Old business equipment traded as part payment on new equipment is a like-kind exchange. So too, at least in some instances, is the exchange of a Federal Communications Commission broadcast license of a radio station for an FCC license of a television station. In fact, virtually any type of business asset can be exchanged.

According to the IRS, although radio and television FCC licenses are like-kind property, many broadcasters are incorrectly valuing those licenses.

In its simplest form, the basic "trade-in," the basis or value at which the new property or equipment is carried on the books and used for gain, loss or depreciation purposes, usually is the same as the basis or value of the trade-in plus whatever additional cash is needed. In effect, the basis of the new property is its purchase price, increased or decreased according to whether the trade-in value of the old equipment is greater or less than its depreciated cost.

Tax swaps

Under the Section 1031 like-kind exchange rules, real estate may be exchanged for real estate; an automobile for another automobile; but not real estate for an automobile. Those 1031 exchanges, named for a section of the Internal Revenue Code, require an exchange of property that is of a "like kind." Property is of like kind if it is of the same nature or character.

Fortunately, most exchanges of real property, that is land and whatever is erected or growing on it, qualify as like-kind exchanges. Personal properties, meaning moveable things such as equipment, inventory and the like, are like-kind only if they are actually of a like-kind or class.

Depreciable equipment, assets and properties such as business equipment are of a like-kind if they fall within the same general asset class or the same product

class. Those classes generally follow those used for depreciation purposes.

Exchanges involving intangible personal property or non-depreciable tangible personal property may qualify for like-kind exchange treatment but only if the properties are like-kind. According to the IRS, although radio and television FCC licenses are like-kind property, many broadcasters are incorrectly valuing those licenses.

The value of an FCC license does not include the value of the affiliation agreement, any claimed ability to affiliate or goodwill. The sole property underlying an FCC license is the assigned frequency. It is wrong to assume that a station has no goodwill. Broadcasters engaged in station swaps should recognize any gain on the exchange of goodwill.

Benefiting

Under Code Section 1031, owners of property used in a trade or business — or for investment purposes — can defer capital gains taxes by rolling the proceeds from the sale of the relinquished property

into another investment property or into property used in a trade or business that is of equal or greater value. Obviously, this can help defer taxes for any broadcasting operation. What many radio station and business owners forget, however, is that the same technique can be used to reduce taxes on the sale of other assets, such as machinery, equipment and even the operation's intangible assets, contracts, licenses, trade name or trade mark.

Although the process is simple, many broadcast business owners do not successfully complete their tax-deferred exchanges because they do not know how to navigate the complexity of timing requirements set forth by our lawmakers or are confused by the ambiguities of the tax law.

The deadlines for qualifying a transaction as a like-kind exchange are fixed. A radio station has, from the date of the transfer, only 45 days in which to identify replacement property, and only a total of 180 days from the transfer date to close on the purchase of the replacement property.

These deadlines are not extended by weekends or holidays and cannot be extended due to a change in a broadcaster's circumstances. As a result, station owners often feel pressured to rush to close the transaction or are placed in a poor bargaining position in order to satisfy those artificial deadlines.

An exchange may qualify for like-kind treatment even if the replacement property is received after the broadcaster has transferred the relinquished property, provided of course that specific identification and receipt requirements are satisfied. These transactions often are referred to as "Starker exchanges."

The tax rules contain a unique "safe harbor" for Starker exchanges, i.e., an exchange in which replacement property is acquired before the relinquished property is transferred, that involves "parking." In a parking transaction, the broadcaster "parks" the desired replacement property with a third party until an actual transfer of the relinquished property to the ultimate transferee in a simultaneous or deferred exchange is arranged.



After transferring the relinquished property, a broadcaster must identify replacement property within 45 days and must receive the replacement property within 180 days. Best of all, if the rules for this safe harbor are complied with, the IRS will not challenge or look too closely — so long as the rules are closely followed.

More than a swap

One of the biggest concerns with like-kind exchanges is the receipt of so-called "boot," which may be taxable. If the replacement property is equal or greater in value than the property given up, there is no boot. If cash is received, however, boot results.

What's more, discharges of mortgages or other debt are taken into consideration as value received. There also are other instances where boot can arise such as when the first year's insurance or warranty payment is paid from exchange funds. That payment is boot because neither insurance coverage nor warranty protection is like-kind property.

Qualified intermediaries

A major misconception about like-kind exchanges is that the property owner is trading property with someone else. In reality, most like-kind exchanges are deferred exchanges involving several parties or, in many cases, an intermediary.

In an exchange of real property involving three parties, i.e., (1) the radio station, (2) the transferee (perhaps a qualified intermediary) and (3) a third party that supplies the replacement property, the exchange may qualify as like-kind even if the third party deeds the replacement property directly to the broadcaster. It is not necessary for the transferee to take title to the replacement property and then transfer title to the radio station.

In many deferred exchanges, a qualified intermediary is used to transfer the properties and accomplish the like-kind

exchange requirements such as the 45-day property identification rule and the 180-day closing rule, which must be complied with exactly. There also are rules for QIs. The QI cannot for example, be a related party to the person making the exchange.

On the downside

While like-kind exchanges offer many tax benefits, there also can be potential pitfalls.

One mistake that can prove costly is a misunderstanding of the 180-day rule. That rule states that you have either 180 days, or until your next tax return is due,

whichever is later, to close the deal.

A major downside of 1031 exchanges is the replacement property's reduced tax basis or book value. A significantly smaller depreciation write-off or a reduced valuation of business assets can hurt any radio station or operation's financial picture. Finding replacement property at a good price is often difficult and compounded by the tight timelines.

Still another problem for many broadcasters is matching equity, the requirement for reinvesting the entire proceeds. The rules allow a broadcaster to identify: (1) up to three replacement properties or (2) any number of replacement properties provided the aggregate value of each does not exceed 20 percent of the aggregate value of all relinquished properties.

In fact, radio station owners who have significant capital loss carryovers might prefer not to defer the gain in a like-kind exchange. Generally, like-kind exchange treatment should not be used for any property that will generate a loss, as a like-kind exchange also defers any loss.

It should be obvious by now that like-kind exchanges, under Section 1031 of the tax law, can be an extremely valuable tool for every broadcaster and business owner wishing to defer or postpone taxes. Also keep in mind that a great deal of every Section 1031 exchange is "form" driven, dotting "i's" and crossing "t's." Thus, it is important to have an advisor who can ensure deadlines are met.

A qualified advisor also can perform the calculations necessary to determine the value, debt and equity requirements for both the relinquished property and the replacement property so important for deferring the entire gain. That professional might also serve as a qualified intermediary, helping smooth the path of the Section 1031, like-kind exchange or swap.

Mark Battersby is a tax and financial writer based in suburban Philadelphia. Reach him at mehatt12@earthlink.net.

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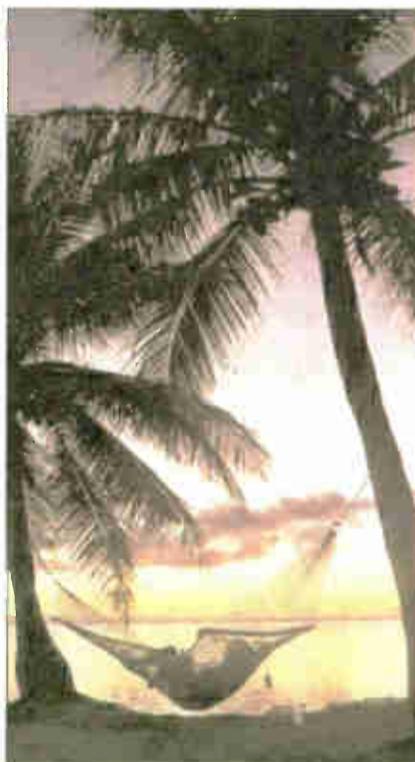


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BROADCAST LAW REVIEW

50 Million Birds Can't Be Wrong, Can They?

NPRM Suggests Revised Tower Regulations to Save the Birds



by Ron Whitworth

After years of pressure from environmental and wildlife groups — and, at their behest, the courts — the FCC has adopted a Notice of Proposed Rulemaking looking at possible measures to reduce the number of migratory bird deaths resulting from communication tower collisions.

The Department of the Interior's United States Fish and Wildlife Services (FWS) estimates that at least 4 million to 5 million — and possibly as many as 50 million — birds die in the United States each year as a result of tower collisions.

if there is evidence that communications towers are adversely affecting the birds.

Commissioner Adelstein disagreed with the tentative nature of this conclusion. In his view, the NEPA gives the FCC explicit authority to regulate communications towers in the protection of migratory birds. Additionally, Section 303(q) of the Communications Act grants the FCC the authority to require painting and/or lighting of antenna structures which may constitute a hazard to air navigation.

White strobes

Responding to evidence from the Federal Aviation Administration and other

While protection of wildlife — and especially endangered species — is clearly a desirable goal, it does appear that the precise nature and extent of the threat here is a bit fuzzy. While Commissioner Copps, in his separate statement, cited the FWS estimates of "as many as 50 million" tower-induced bird deaths each year in the U.S., the FWS itself acknowledges that its figures are only "educated guesses" and that mortality figures are "difficult to determine" (www.fws.gov/birds/mortality-fact-sheet.pdf). And when you think about it, the notion that 50 million birds die from flying into towers every year seems a bit extreme.

That would translate

Authority?

This is not a new item for the commission. More than three years ago, after considerable pressure from various quarters, the FCC issued a Notice of Inquiry designed to develop some factual record about the cause of migratory bird deaths. The NOI sought information on various factors such as lighting, tower height, antenna structure, weather, location and migration paths. In addition to numerous comments and ex parte submissions, the commission hired an environmental consulting firm, Avatar Environmental LLC, to evaluate existing research.

Industry comments and Avatar's findings led to a series of tentative conclusions, which are included in the NPRM. The FCC has now requested additional comments in several areas, including its legal authority to adopt regulations concerning the collisions, and the role of tower lighting and other factors (including tower height, location, the use of guy wires, and the collocation of new antennas on existing towers) in the collisions.

On the issue of legal authority, the commission was still a bit tentative, concluding only that the National Environmental Policy Act "may provide a basis for the commission" to take action to protect the migratory birds

parties that lighting is a primary factor in many bird deaths, the commission tentatively concluded that white strobe lights should be the preferred lighting system for modified and new communications towers. Evidence indicates that white strobe lights create better visibility for birds than red obstruction lighting systems. Particularly in poor weather, and when birds are flying at a low altitude, lights that do not blink often confuse birds into flying in circles, leading to exhaustion and collisions with towers. The use of strobe lights may enable birds to stay on course.

Accordingly, the commission tentatively concluded that red obstruction lighting should be replaced by medium-intensity white strobe lights "for nighttime conspicuity, to the maximum extent possible without compromising safety."

The FCC is seeking information on additional tower factors (such as tower height, location, the use of guy wires and the collocation of new antennas on existing towers), particularly in light of its tentative conclusion regarding white strobe lights. The use of white strobe lights might eliminate the need for additional remedies proposed by environmental groups to curb the number of deaths.

to a daily national average of 137,000 birds. If the problem is really of that magnitude, it's surprising that FWS can offer only an educated guess about the number of fatal bird-tower collisions.

Comments and Reply Comments are due 60 and 90 days, respectively, from publication in the Federal Register. As of press time, the NPRM had not yet been published in the Federal Register.

The issue of the effect of towers on migratory birds is one that has hovered over the commission for years. In fact, when the Commission took no action on the issue, birders felt rooked by the delay and eventually groused to the court to try to force the FCC to stop ducking the issue. For its part, the FCC has resisted such goosing, apparently because it feels a bit awkward about regulating in avian matters which are outside the commission's normal expertise. While the commission presumably has no regrets about the fact that the issue is still up in the air, the adoption of the NPRM may bring the matter home to roost.

Owl it get resolved? Stay tuned.

The author is law clerk for Fletcher, Heald & Hildreth, P.L.C. This article is adapted in the company's client newsletter.

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INTERNET RADIO

The Rebirth of Internet Station WOXY

by James Careless

It reads like a story out of a Jimmy Stewart movie.

Pioneer Internet radio broadcaster WOXY goes dark after a failed plea for listener funding, only to be revived by a wealthy financial angel who posts his honorable intentions on WOXY's online message board.

La La founder Bill Nguyen writes, "Hey folks, we'd like to save woxy. You can learn more about us at lala.com, but we're very well funded and humbled by the great work the people here have done. Please tell the fab four at woxy to contact us."

Today, WOXY is back on the Web. Meanwhile, Nguyen's La La — a legal CD trading site, where La La takes \$1 for each CD trade facilitated — is allowing its members to create their own online radio stations, using WOXY's music library. As well, La La is pumping money in Cincinnati-based WOXY, to improve its studios for live performances and to add new studios across the United States.

All we need is a closing shot of Jimmy Stewart hugging Donna Reed — lifted out of "It's a Wonderful Life" — and the story is complete. Except this time, it actually happened.

WOXY's plight

In 1983, Oxford, Ohio's WOXY 97.7 FM was purchased by Doug and Linda Balogh, and flipped from top 40 to alternative and modern rock. In 1998, the station started simulcasting its off-air signal on the Web. Six years later, the Baloghs sold the broadcast license and assets of WOXY to First Broadcasting Investment Partners of Dallas, but retained the rights/ownership to the intellectual property of 97X The Future of Rock and Roll, woxy.com and its music library with plans of taking WOXY Internet-only.

By May 13, 2004, woxy.com signed off due to a lack of cash. The next day, two investors approached station staff with a plan to relaunch WOXY and two months later it was live again.

But fast forward to mid-2006. "We had hit a point where what we were doing in a business sense wasn't working for us," says WOXY General Manager Bryan Jay Miller. So Sept. 15, 2006 was posted on woxy.com's site as the station's last day.

As before, money was the reason WOXY signed off, rather than lack of listeners. "We were large as Internet radio stations go," says Miller. "But we hadn't succeeded in changing how the advertising business viewed Internet radio, and we couldn't afford to keep trying on our own."



"People who buy Internet advertising don't understand Internet radio," he said. "I spoke to one person at an interactive ad agency about using 50 second audio spots. She asked me if I could send her a screen shot of it."

White knight

Had La La founder Bill Nguyen not stumbled across WOXY's online message board, the station might still be dark. But fate intervened: In September, "Bill started surfing Internet radio stations and came across WOXY," says La La's John Kuch. (La La staff have no titles.) "Looking at their message board, he realized that the kind of passionate listeners they had gathered over the past 20 years reminded him of our La La community."

This community, as Kuch calls it, has made La La into an Internet powerhouse. By posting lists of the CDs they want and those they have, they can legally trade music with each other. For its part, La La handles connecting seekers with traders; charging just \$1 for each trade successfully completed.

"Today, we have about 2.5 million CDs available for trading in our database," Kuch says. "To put this in perspective, eBay has about 250,000 CDs for sale. So we're an order of magnitude bigger."

The deal

Using some of the money earned by La La, Nguyen purchased woxy.com's assets, putting them back online and rehiring its staff. In return, La La members are now allowed to tap into woxy.com's music library to create their own personal (and royalty-paid) online radio stations. These are posted on the web at www.lala.com, where anyone can listen

to them.

"The library of music for users to draw is the WOXY library plus a huge amount of music that fans are asking for," said Kuch. "It will be an ever-expanding library based of albums and tracks that fans want to add to their station playlists."

Functionally, La La is leaving WOXY to continue as it did before, he adds. The only change is the content deal, and La La's plans to build new live performance studios in San Francisco, Austin, Chicago, New York, Seattle and Boston.

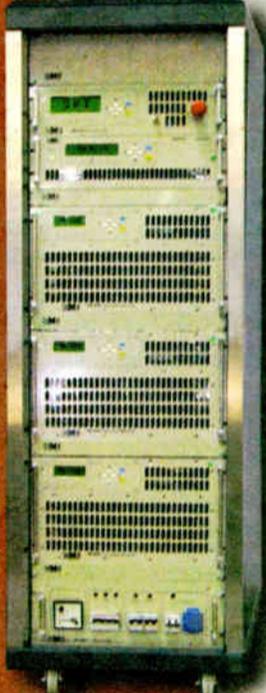
By reviving WOXY, La La hopes to attract its fans to www.lala.com and entice them to trade CDs for a fee. Meanwhile, WOXY is no longer beholden to Internet advertising for its survival. The result, the partners say, is a win for both. It's a happy ending worthy of Jimmy Stewart. If only rest of the radio business worked like this.



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First Listen

► Continued from page 38

WKTU-2 finally came in consistently. Just as well, as I could never have actually gotten away with stringing the antenna across the living room like that.

On the other hand, just using the Accurian's basic FM antenna gave me much better FM reception than what I was used to at home. Ironically, I was able to pick up other country FMs, including some that were two hours from me.

Then I brought the radio to work. At my desk, I was unable to pick up the New York or Philadelphia stations with either antenna. Two stations from closer markets

instead of computer speakers brought home a few points, and allows me to end with some advice for anybody who did buy an HD Radio this month.

If you were given Sirius a year ago, you had the countdown to Howard Stern to build excitement. If the industry indeed believes that the greater availability of receivers at an attractive price point is finally putting HD Radio under more chimneys this holiday season, it's time to gear more programming to those people. Of the multicast stations I encountered over Thanksgiving weekend, only WCBS-FM-2's oldies format was offering anything that differed from what one might have heard a week (or month) earlier.

For the same reason, stations should

I was expecting the loudness of, say, the THX movie trailer. What I heard lacked fullness, as if the primary goal were to demonstrate CD-style clarity.

turned out to be not broadcasting in HD yet. That left me with only one choice in HD: WAWZ(FM) in Zarepath, N.J., a few miles away, and its HD2 channel. The experience was not unlike an earlier test drive of the Boston Acoustics model from Central New Jersey that had failed to pick up New York, Philly or much of anything.

What's ironic about having reception issues in Somerville is that it's not a town where one wants for radio reception. Roughly 80 percent of New York and Philly stations are available — the only issue is those that are short-spaced to each other — and there also are stations from nearby Trenton, N.J., Allentown, Pa., and the Monmouth/Ocean, N.J., market as well as a few locals.

And while I'm waiting for the e-mail that explains that I'm not in the primary service contour for most of these stations, their reception on a regular radio at my desk is more than acceptable.

Join the club

As a non-engineer, I would not try to write authoritatively about the Accurian's sound quality, except to say that I was somehow expecting the head-rush of loudness of, say, the THX "the audience is listening" movie trailer. What I heard lacked the fullness of even the average FM station, as if the primary goal were to demonstrate CD-style clarity.

I even managed to stumble across Herb Alpert & the Tijuana Brass' "A Taste Of Honey" on WCBS-FM-2, a swinging '60s instrumental that should have been a great audio showcase but didn't have any particular punch here. And one multicast channel, WQHT-2, was roughly half the volume of its HD1 sister.

Okay, in case any of HD Radio's satellite radio competitors or regular critics are gloating now, I should point out that I still put up with a certain amount of signal dropouts and futzing around with the antenna to listen to my Sirius satellite radio, as well. If I had felt like I were getting a lot of station options, or even one must-have station, it wouldn't have mattered. But in a market with multiple choices, there were frustratingly few new ones.

Of course, much of what I did hear on HD2 was content I'd heard before from stations that also stream on the Web. But hearing the programming over a radio

devote more promo inventory to explaining the advantages of HD2, welcoming listeners to the club and congratulating them on being early adopters. And there should be some way for listeners to interact with the new stations and each other. What fun is joining the club if you can't talk to somebody about it?

Just as stations run the audio of their TV spots as on-air promos, more HD2 multicast channels should try to reflect the "secret stations" marketing heard in some of the institutional advertisements for HD Radio, and try to capitalize on the mystique that those promos hope to create.

Stations also should try to show off HD2 with more audiophile programming. Early FM had music that was worth hearing in FM stereo. I'm guessing that in 2006, that's more likely to be Tool than Herb Alpert for many consumers.

The multicast channels should be high-concept and deliver. As with satellite radio, I'm not in favor of stations so narrow they're claustrophobic, or so obscure they're of interest only to a collector. But I've encountered deep-cuts stations that weren't so deep, and new-music channels that weren't so new. As we found out after the first year of satellite radio, wide variety by itself is not enough. First there has to be tangible variety.

This spring's optimism among many programmers about the capabilities of HD2 multicast stations seemed a little unrealistic. Much of the programming time and on-air inventory broadcasters devoted to their HD2s might then have been better devoted to stations that were being widely heard. With budget and personnel cuts now taking place across the industry, it seems unrealistic that more resources are now going to be devoted to multicast stations.

But \$99 pricing suggests that HD Radio finally has its driver, and that gives any station broadcasting HD Radio a renewed responsibility to put on a show for those listeners who do show up.

This commentary originally appeared in Edison Media Research's "Ross On Radio," a weekly column on radio research and programming that can be found at www.edisonresearch.com. The author can be reached at ross@edisonresearch.com.

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GUEST COMMENTARY

First Listen: RadioShack's \$99 HD Radio

by Sean Ross
VP of Music and Programming
Edison Media Research

I was ready to buy an HD Radio receiver about six months ago, shortly after an industry-wide offer went out making a Boston Acoustics radio available for about \$200. I decided to wait after a friend familiar with the receiver warned me off. Wait for a radio with improved reception, I was told. In Somerville, N.J., 50 miles from New York and 60 from Philadelphia, I wouldn't be able to pick up the HD signals of FM stations in either market or

using the site search would have worked, too.

At RadioShack, the salesman was indeed aware of the special — an improvement, by the way, over the early days of satellite radio when the first Circuit City salesperson I spoke to was barely familiar with it. While the RadioShack salesman did have to walk around the store with me to find the display unit, it was still an improvement; the Circuit City salesperson had only been able to hand me a brochure.

But the RadioShack salesman couldn't play me the Accurian. It wasn't plugged



their multicast channels.

So I waited. When word went out that RadioShack was going to be selling its Accurian tabletop HD Radio for \$99 on the Friday after Thanksgiving, I e-mailed my contact again. This time, I was told I could count on receiving at least the New York stations with the antenna that was provided with the radio. (Boston Acoustics owners had complained of having to string their own.)

On the hunt

The day after Thanksgiving, I went to www.radioshack.com to see if the Accurian was indeed on sale for \$99. There was no mention of it on the homepage. There was no obvious place to click to on the homepage, for that matter, as the pull-down for "portable music" offered CD players, MP3 players, boom boxes, portable radios (smaller ones), satellite radios and accessories.

I found the Accurian sale (\$125 with a \$25 mail-in rebate) through a Google search, although I later found out that

in, and he told me it didn't get any reception inside the store.

I bought the Accurian anyway; the last one in stock, he told me. Had he sold any others today? "Somebody must have bought one. It's the last one," said the salesman. (HD Alliance President/CEO Peter Ferrara told reporters recently that RadioShack was "overwhelmed with the sales" of the Accurian over the weekend.)

Bringing home radio

The first place I tried the radio was at home in Northern New Jersey, 23 miles from the Empire State Building. I started with the smaller of two antennas that came with the radio. The second one was recommended for "more remote areas."

I used the station lists at www.hdradio.com to guide my tuning. There are two different station lists: by state and alphabetical by market, neither listing every station on the other.

With the first antenna, I could get only 10 of the at least 16 stations HD2 multicast channels listed for my area. Of those

Out of Sync With a New Era

In a recent commentary in these pages, XM Satellite programming chief Lee Abrams embraced all platforms — including satellite, iPods and terrestrial radio — saying it's content that will drive their successes. The traditional radio industry needs to get in sync with this era, he implied.

We've all heard "content is king" until our ears bleed. But many in traditional radio stubbornly refuse to listen through the hemorrhaging.

The industry readily embraced deregulation 11 years ago. While Congress was focused on cable and phones, radio was ready to jump on new ownership rules, and Wall Street jumped, too.

Owners promised format diversity and creativity. They didn't deliver. Instead, we got cookie-cutter formats, voice tracking and pronouncements from leaders that diversity was greater than ever. An oversimplified criticism? Yes. True? Yes.

At the same time Wall Street is looking in another direction and radio owners are contemplating going private, the HD Digital Radio Alliance, controlled by many of those commercial owners, is again promising diversity and creativity on stations' newfound channels. We don't hear it.

While satellite companies continue to explore innovative concepts (driver-to-pit audio channels on Sirius, for example, or a dedicated Hanukkah channel on XM), terrestrial radio is using its main channels to play the same pop, rock and country songs in a different order, sometimes with fewer or shorter spots. What's new, beyond reduced spot clutter? Not much.

Meanwhile, multicasting has yet to generate substantial buzz. Here at RW's offices in December, we could look out the window and see people camping overnight in front of a Best Buy, waiting to purchase the first Sony PlayStation 3 (and sell it on eBay). We haven't seen lines outside Circuit City or RadioShack for HD Radios. If our industry really thinks multicasting is the key benefit of digital, that hasn't punctured the American consumer's consciousness.

The industry is touting digital's supposedly better sound. But, as Abrams points out, it was *content* in the 1970s that finally caused listeners to want FM radios, which had been around for decades.

We have to do better.

Larry Rosen of Edison Media Research has said if it were up to him he wouldn't let anyone over 30 create programming for HD channels. He has a point. Young listeners drove the migration to FM. They are at the crest of the digital wave and it stands to reason they'll guide the creativity.

Radio has always told us stories. Howard Stern, Don Imus and Ira Glass are telling them today. Jack Benny told them yesterday. What's the story Jack FM is telling us? Owners need to invest in talent the way they were willing to invest in stations in 1996. Donating airtime for promotions about new receivers isn't enough. Radio is at another crossroads. Like radio vs. TV and AM vs. FM, now comes the challenge of digital media.

Our industry has been a survivor because it enjoyed strong consumer loyalty, a lock on listeners in certain environments and interesting content coming out of the speaker. We are gambling away our market loyalty month by month. Our lock on office and car listening is gone. But our content weapon remains.

With big owners looking to go private and selling off "underperforming assets," perhaps our next content revolution will come among stations shed by the group owners. We can hope.

As Abrams said, "At the end of the day, the best content will prevail."

— RW

signal in HD, but no option for a second station. I have since confirmed with the stations that at least three of those stations are not yet up and running. One other station's multcasters were off the air over the weekend recently but are now back on.

So I tried the second antenna. Now WKTU-2 came in a little better; still not consistently, but I lost at least two other stations: WNYC(AM-FM)'s HD2 and HD3 channels. Eventually, I let the antenna go slack instead of stringing it up, and

See FIRST LISTEN, page 37 ▶

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